UNIVERSITY OF ALBERTA

Medical Pluralism, Collaboration and Efficacy Studies: Explorations in Medical Anthropology and Alternative Medicines

by

Linda Ann Hughes

©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of MASTER OF ARTS

Department of Anthropology

Edmonton, Alberta
Spring 1997

National Library of Canada
Acquisitions and Bibliographic Services
395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale du Canada
Acquisitions et services bibliographiques
395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced with the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-21133-9

Canada

UNIVERSITY OF ALBERTA
LIBRARY RELEASE FORM

NAME OF AUTHOR: Linda Ann Hughes

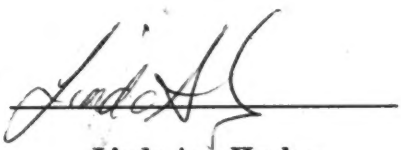
TITLE OF THESIS: Medical Pluralism, Collaboration and Efficacy Studies: Explorations in Medical Anthropology and Alternative Medicines

DEGREE: Master of Arts

YEAR DEGREE GRANTED: 1997

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright in the thesis, and except as hereinbefore provided neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatsoever without the author's prior written permission.



Linda Ann Hughes
31 Sundance
Edmonton, Alberta
T5H 4B4

DATE January 25, 1997

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled, Medical Pluralism, Collaboration, and Efficacy Studies: Explorations in Medical Anthropology and Alternative Medicines, submitted by Linda Ann Hughes in partial fulfillment of the requirements for the degree of Master of Arts.

David E. Young
Dr. David E. Young

Dr. Owen Beattie

Wendy Neander
Wendy Neander

DATE: January 23, 1997

DEDICATION

To Gregg,
my partner in everything and whose quiet strength sustains me;

To my mom,
who gave me the freedom to learn my own lessons.

ABSTRACT

In North America, the increasing interest in alternative medicine has resulted in a critical examination of alternative systems of health care. Issues most commonly raised are those of safety and efficacy. This thesis examines what is meant by efficacy, and reviews the literature on efficacy studies that have been conducted on alternative systems of medicine. This review will demonstrate that the structure of these studies has generally detracted from their acceptance by the biomedical community in which efficacy is determined primarily through controlled studies based in Western science.

This thesis also examines how efficacy studies can be broadened to include the insights of medical anthropology. The role of medical anthropology, with its expertise in investigating the context of belief systems, is to mediate a format for efficacy studies that is acceptable to biomedicine, yet is not intrusive on the alternative systems being studied. If medical anthropology is successful in this role, it will make a substantive contribution to North America's emerging medical pluralism.

ACKNOWLEDGEMENTS

I owe a great debt to Dr. David Young, who gave me great guidance and whose patient and expedient editing, taught me a great deal.

I owe a great deal to the Department of Anthropology office staff at the University of Alberta. Most of whom have become my friends.

In particular, a huge thanks to Gail Mathew; her willingness to help me, even when she had everyone else's work to do, allowed for the completion of this thesis.

As well, Darlene Bagstad, thanks for always having an open door, a shoulder to cry on and the experience to answer all my questions.

My friend, Denise Spitzer; our frequent discussions on graduate school, and life, are highly valued.

Kerrie Ann Shannon; your support, concern and friendship helped me all the way.

All my graduate student cohorts, who were a great collection of people going through similar pains and joys and always willing to talk.

I would also like to thank Dr. Marcia Calkowski, whose influence and support got me here, and it was a good experience.

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION

Recent Trends 1

Basic Issues 2

Definitions 3

CHAPTER TWO: HISTORY, PRINCIPLES AND MODELS

Biomedicine and Alternative Medicines 10

Benefits of Collaboration 21

Efficacy Studies: Benefits and Problems 24

Role of Medical Anthropology 29

CHAPTER THREE: EFFICACY STUDIES

What is Efficacy? 31

Variables of a Study 33

Publication of Studies 35

Review of a Sample of the Literature 36

Homeopathy 36

Chiropractic 41

Traditional Chinese Medicine 44

Relaxation Therapy 50

Indigenous Healers 53

Validity of Alternative Healing 61

Policy and Regulations 64

CHAPTER FOUR: CONCLUSION - EFFICACY STUDIES AND MEDICAL ANTHROPOLOGY 67

Where Can We Go From Here? 68

The Role of the Medical Anthropologist 70

Emic/Etic 72

Shifts in Thought 74

Communities: Sub-Cultures 77

General Suggestions 79

Basic Principles 80

Models of Efficacy Studies 81

Data Collection 82

Nature of Controls 83

Criteria for Efficacy 84

Causal Factors 85

Conclusion 85

Contribution of Medical Anthropology 88

Conclusions 91

REFERENCES 94

List of Tables

Table One: Models of Efficacy Studies 87

CHAPTER 1: INTRODUCTION

Recent Trends

Health care and health care providers have always been intrinsic and vital elements for the cohesion of a society. The health of people in their society is the basis for a thriving community. Health, in a wholistic sense, is a necessary part of a community with each community defining health and health care in its own unique way. There is a multiplicity of approaches and explanations for understanding health and illness, historically and cross-culturally. As new knowledge is generated, paradigms of understanding shift, with one way of thinking often influencing another.

As Western philosophies in particular have evolved, and the effects of paradigm shifts have been substantial, these "Western" ideas have had a great influence around the world due in part to the colonial attitudes and overall domination of Western nations. The degree and complexity of changes between and within societies has compelled researchers to try to understand and implement health care that is effective for all people.

For all countries of the world, developed and developing, rural and urban, multiple health care approaches are a part of real life. This is to say, people everywhere prefer and use some form of health care pluralism that they believe is best for them. These types may include a variety of practitioners such as elders, medicine people, herbalists, diviners, biomedical doctors, and an entire array of treatments such as herbal medicines, imagery, prescription drugs or spiritual intervention. Yet, in the discussions of health and health care, there are many viewpoints that often cloud the

reality concerning the necessity for some type of medical pluralism. There are many people in the world who need adequate health care, but do not have access to it, and many that desire alternatives. In North America, there is a growing trend towards the use of alternative medicine as people become reluctant to use biomedicine for those conditions biomedicine is not equipped to treat effectively. Leslie (1980:193) states: "cosmopolitan medicine does not meet the demand...despite its elaborate structure of specializations, extensive facilities and clear professional dominance."

Since proclamations such as that by the World Health Organization concerning the goal of health for "all peoples of the world by the year 2000" (WHO, 1978:3), and calls like that by Charles Leslie (1980:191) for "internationally standardized medical systems," many questions and concerns have been generated regarding medical pluralism. These include re-examinations of the essence of health care, attempts to define "adequate" health care, and the meaning of health in general. Further, as we move toward greater collaboration between systems, there is a call to examine the efficacy of alternative forms of health care.

Basic Issues

Attitudes towards efficacy studies of alternative forms of medicine are explored in this thesis through discussing why efficacy has been such an unapproachable topic, especially in anthropology, and how it continues to be a challenging obstacle to the development of medical pluralism.

Efficacy studies can be done with alternative forms of medicine. It will be shown that there is a desire for efficacy studies by practitioners, patients and policy

makers. By realizing that there are many forms of medicine and recognizing that medical systems are expressions of cultural systems (Kleinman 1978), we may begin to establish means of evaluating these "new" forms of medicine for North America. These evaluation methods, developed with a medical anthropological perspective, need to satisfy the dominant systems while not being intrusive on alternative systems.

It is imperative to recognize that most of our research designs in medical anthropology stem from the period when anthropology as a discipline was trying to establish itself as a science (Anderson 1996) in order to demonstrate the validity of the field. This is no longer necessary for most researchers, as anthropology is well grounded as a social science. The development of theory has taken medical anthropology primarily into the domain of ethnomedicine where studies have dealt primarily with cultural symbolism and not with the efficacy of healers. One of the critical questions for this thesis is whether anthropology has the right to ask other healers and other cultures to "prove" themselves.

Definitions

"Health" and "health care" are terms that have had fluid and relative meanings over time and across cultural boundaries. However, people generally agree with the WHO that basic health care is necessary for all people in the world. But how can we, as researchers and policy makers, provide effective health care to the people of the world if there is no agreement on the meaning of "health" and "health care"?

The following is a definition from the Concise Oxford Dictionary: "health: 1. the state of being well in body or mind. 2. a person's mental or physical condition... 3.

soundness, esp. financial or moral" (1990:543). This contrasts profoundly with the WHO definition: "...health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity..." (WHO, 1978:2). Although it would be difficult for anyone to be truly well by this definition, it is the goal for which health care providers should be seeking.

The WHO's declaration is indicative of a trend towards understanding health and health care as far more complex than the disease-treatment approach of biomedicine. Health care, in this more wholistic understanding of health, involves many factors that biomedicine does not usually treat, such as social wellbeing and mental health. In many countries around the world where access to biomedicine is limited, other traditions have been at work, sometimes since time immemorial. In these places, biomedicine needs to be introduced to complement systems already in place.

One of the obstacles that limits the understanding of Western (or Northern) countries is that their world view is grounded in finance, science and very little spirituality. The basis for this is can be found in the Cartesian model. The eighteenth century philosopher, Rene Descartes, felt it was necessary to split the body and the mind (or spirit) if a mechanistic understanding of the body and of society was to be investigated and understood (Russell 1959). This is not to say that there was no spirituality; it was simply relegated to the church (Roman Catholic) as an area of interest. This allowed Western society to develop many theories based on simple mechanics, including medicine. The result today in North America is a medical system

whose procedures are linked directly and symbolically to the "West," and its values, economics and a reductionist approach. Biomedicine, based on this Western scientific approach, has become a dominant system that, in its colonial views, has subjugated most other forms of health care.

The term, "medical pluralism" is used throughout this thesis. I have been asked why I use this term rather than the broader concept of "health care pluralism" which includes, both patients and all types of health practitioners. In contrast, the term medical pluralism, emphasizing *medical*, is perceived by many to refer only to medical doctors and the top down approach. My use of medical pluralism stems from the field of medical anthropology, in which the term "medical" stands for all that is involved in health: the practioners, patients, the enviros and all the variables that reflect and affect health.

Leslie (1980:191) defines a medical system as, " a bureaucratically ordered set of schools, hospitals, clinics, professional associations, companies and regulatory agencies that train practitioners and maintain facilities to conduct biomedical research, to prevent or cure illness and to care for or rehabilitate the chronically ill." He adds that the general view of anything outside this then, is "fringe," considered unreliable and unsubstantiated. This Western view, correct or not, is the one which many policy makers use globally to understand things and affect the structures of medical systems. A. Young (1983:1206) uses descriptions for medical traditions and systems that are more applicable worldwide. Medical traditions, in his view, are "distinct combinations of ideas, practices, skills, apparatuses and materia medica." A medical system is a

"social and economic order using one or more medical traditions for a given area." It would be more useful, in these times of changing definitions towards a wholistic understanding, to move away from definitions that are entirely biomedical-centred, like the one used by Leslie. It is necessary to understand that medical systems, health care and health are relative to their cultural settings and traditions.

Further definitions for biomedicine, traditional medicine and alternative medicine are necessary. Biomedicine is defined by Neumann as the "objective scientific management of the pathophysiological process" (1982:1818). Traditional medicine, he says, is "essentially an outgrowth and expression of culture" (1982:1817). Yet, as can be seen in the above discussion, this is true of any medical tradition. Culture invariably plays an important role in the development of any knowledge system. In this thesis, I will use Neumann's definition of biomedicine. However, further elaborations of what that scientific process is and what it does to other forms of knowledge will be set in the context of efficacy.

The terminology that is used, and so often misused and misunderstood in discussions of healing systems, leads to further difficulties for an intersection of ideas. Traditional medicine is often used to refer to the traditional form to which people are accustomed. Biomedicine is often referred to as traditional medicine, meaning the traditional medicine that has been used in North America by Western society. More customary in anthropology and cross-cultural research, traditional medicine refers to an indigenous system, usually outside of Western medicine.

Alternative medicine is slightly more complex. It is used in this thesis as those forms of healing that are not biomedicine. However, the term "alternative" often evokes images of the most fringe cases of medicine. This is unfortunate. An alternative form of medicine is simply that, an alternative to the forms to which people are regularly exposed. Also popular currently is the term complementary medicine, implying that these alternatives are complementary to the dominant system, and to each other. This, much the same as alternative, creates an image of a system that has many forms of medicine within it. In this way, biomedicine, as one type of medicine, can be viewed as an alternative, one of the many choices people may have. However, this is not a common way of looking at it. There is obviously a more complicated set of issues about the alternatives that people have a "choice" of, but this will be discussed in the thesis.

Traditional medicine and alternative medicine are both approaches to understanding health and health care that have been difficult to understand from within the biomedical framework. They may be based within a cultural community, as in the case of a Nigerian herbalist or a North American native shaman; they may be removed from their cultural settings, as in the case of Traditional Chinese Medicine in Canada; there may be blended therapies such as naturopathy which incorporate many traditions. Nevertheless, these traditions continue and succeed in their own niches. It is the history of the intersection of the dominant biomedicine and other forms of healing that defines the hierarchy in which they exist.

"Wholism"[1] has been one of the important terms in alternative medicine. It is important to briefly elaborate on it to understand the difficulties that may occur when dealing with the reductionist model of efficacy studies. Since there are many references dedicated to the discussion of wholism (for example: Aakster 1986, Delblanco 1994, Littge 1994, Patel 1987), I will not give a lengthy explanation of the term. One note is that it does carry a negative connotation due to the movement in the 1980s referred to as the "New Age" movement, which often used this term to describe itself. It is now primarily associated with "nonscientific practices and often nondegreed practitioners" (Golan 1994:486). I will provide examples from within systems of care that operationalize this concept in a positive way.

Aboriginal people of Canada provide one of the best examples of wholistic healing systems. As Waldram points out, "medicine", as Westerners have come to understand the term in English (for example "medicine person"), actually means something far less like medicine as we know it and more like a spiritual power or essence (Waldram 1995:100). He goes on to associate it with religion: "'medicine' was partly within the realm of what we would call the religious...[i]t is not possible to separate much of Aboriginal 'medicine' from 'religion'" (Waldram 1995:100). In his discussion of disease theory from within the Ojibwa cultural belief system, he elaborates that the cause of illness is intensely intertwined with interpersonal

---

[1]The spelling of this term is consciously written with a "w" although the standard appears to be "holistic" without a "w" (one finds both in the literature). Although the Greek root is holos, meaning "whole" (Golan 1994:486), "hole" implies an empty concept. Therefore "wholistic" will be used.

relationships including those with "other-than-human beings" (Waldram 1995:101). He generalizes the Ojibwa experience to Aboriginal healing systems in general: "the world is seen as a place in which harmony and balance exist between and among human beings and spiritual or "other-than-human" entities, and serious illness is indicative of a disruption in this balance" (Waldram 1995:101).

When understanding a healing tradition, it is necessary, in many cases to understand its cultural context. A wholistic understanding is to recognize all the relationships involved within the system. Biomedicine may be understood wholistically, while the enactment of the system, by its reductionist nature, does not allow for a wholistic application. While society may recognize the complexities of issues, the system, theoretically and methodologically, cannot account for/does not account for these. When analysing a system, as we do in the West, we need to account for the entire, whole system to effectively evaluate its efficacy.

CHAPTER TWO: HISTORY, PRINCIPLES AND MODELS

"Belief is a matter of choice" (Buckman and Sabbagh 1993:171).

Biomedicine and Alternative Medicines

Biomedicine fears alternative practitioners for many reasons. A primary fear being that people under the care of alternative practitioners are being treated by unproven methods and by people ignorant of a "proper" understanding of medicine (Audet 1994:1474; Leslie 1980:192). The idea that biomedicine has a monopoly on understanding disease comes from the Western system as a whole in its belief that its knowledge is objective and more specifically, from the training that doctors receive in a Western setting.

Leslie (1980:192) points out the danger of the tacit acceptance of their own knowledge by biomedical practitioners. Since many Western doctors emphasize the "biological reality of disease... they shun the symbolic, political and economical functions of clinical transactions". This is true for most knowledge; there are some underlying assumptions that are not stated. If a certain problem is believed to have been created by a certain agent, and if this cause and effect relationship is tacit knowledge (unconsciously accepted as true), alternative understandings are very difficult to introduce, let alone understand.

The approach and understanding of biomedicine concerning the way things work is often very different than a layperson's understanding. If an individual can not make

sense of a medical explanation or understand how a diagnosis is relevant to her/him, the technique will not work to its fullest potential.

This is not to deny major benefits of the biomedical system when it comes to crucial and acute care in an emergency situation, yet curing of the "what" does not get to the origin of the problem or "why" this problem has occurred in the first place (A.Young 1983:1206). This then, is a limit within biomedicine: the failure to recognize the necessity for treating psychological needs as a factor in people's physical health (A.Young 1983:1210). There is a need to answer the question of "why" a person is ill, that biomedicine fails to address and that a patient may need to understand. This role is often fulfilled by a traditional healer (Rappaport 1981:775) or another system of alternative understanding.

A very important element of treatment in all cultures is that the patient must be comfortable with the health care system into which he/she is entering. In a biomedical situation in Western society, a person can feel quite uncomfortable and out of place in a doctor's office (Davis 1988:60). There is certain status associated with doctors, their knowledge, their technology and their image in general. The result of the experience many patients have in Western society is a reluctance to ask questions, apprehension and sometimes denial of illness. Therefore, to have a practitioner from the community, whom the patient may see outside of the office and who is empathetic towards a person's understanding of his/her illness, is going to allow for a greater use of, and a greater effectiveness of any health care system. It is often the case in traditional medical situations.

Any interaction between two people has symbolic elements, regardless of the culture. Gender, economics, status, and age, are only a few of the roles we play. The positions of healers are especially symbolic due to the roles they play in a culture. An aboriginal healer, a midwife, a chiropractor or biomedical doctor all have recognizable positions in society because they are believed to "cure" people or at least affect health.

Although the importance of symbols, often emphasized in a shamanic performance, is de-emphasized by biomedical doctors, Western medicine has its own symbols and ideas that are not always purely scientific and still may effect healing (Leslie 1980:193, A.Young 1983:1210). Yet if any healing occurs in a biomedical situation, without an actual treatment, it is usually attributed to the placebo effect or a spontaneous healing. The high status associated with a biomedical doctor is known by everyone who has access to a biomedical tradition. Whether this status is warranted, more so than for a teacher or a farmer for example, is difficult to know. But it cannot be denied that the hospitals, clinics, degrees and licenses on the walls of offices, the *materia medica* as well as the interaction between patient and doctor, all hold power to influence a person psychologically and therefore physically. Is this any different than the symbolism emphasized in a shamanic performance? Perhaps it is, but only to the extent that a doctor will affect an illness by way of a scientific theory while a shaman will do it according to a theory that fits her or his own world view. This, of course, would not be accepted in a Western view. The role that is presented by a doctor in a hospital or a clinic in North America is one that is worthy of de-constructing if only to identify all of the aspects that establish the institution of a doctor, highlighting that

there is a far greater degree of symbolic presentation of self than scientists would have us understand. If we begin to realize that there is so much more happening in healing than just symptom relief with prescription medication or the psychological effects of dancing, seeing "chicken blood" and drumming, then we begin to realize that all healing is set within cultural boundaries and is not simply an "objective and measurable reality."

The history of health care, and the different approaches to health care, vary in any given society. But the impact that biomedicine has had world wide cannot be denied. The benefits of biomedicine for acute problems are rarely disputed. Inoculations have virtually wiped out certain major diseases such as small pox. Yet has this system increased the overall health of people around the world? Seemingly simple-to-treat problems like malnutrition and dehydration, two very serious problems for many people in developing countries, are still prevalent and at crisis levels in many places (WHO 1978:16). Obviously there are more than simply "sickness" or "disease" factors at play. There are also socio-economic factors that biomedicine can not address in its limited understanding of health. Therefore, it would seem that biomedicine is only treating part of the problem of general health for many people. Yet, it is the dominant form of health care. The need then, is for health and health care systems to be redefined to reflect a more wholistic understanding of health.

Unfortunately, however, what has developed has been a Western-alternative dichotomy. This is to say that Western biomedicine has become the dominant system and the result has often been an intolerant or tolerant orthodoxy, but an orthodoxy

nonetheless (D.Young 1994). There would be no denying, by many types of medical practitioners, that factors relating to health are variable and interactive; even Western thought has to allow for, if not account for, the socio-economic factor in health care. Yet, it seems when an understanding of different systems and cultures is needed, biomedicine becomes the dominant view point and therefore, point of reference. The result is one system trying to evaluate and treat people with entirely different views of sickness and health. Part of the reason for its dominance might be its dramatic displays of healing. What child, or adult, does not want to listen through a stethoscope at one time or another? And who cannot see the drama of a successful operation on a person who has been in an almost fatal accident?

Ultimately, alternative forms of medicine are left out of decision making, rarely granted research funds and generally assigned an inferior status. But is this warranted? Since biomedicine is the dominant form and Western scientific thought is generally the one with controlling power to develop structures, alternative systems are forced to somehow fit into this foreign setting.

Objectivity and scientific "proof" are supposed requirements of biomedical science. This is, therefore, what is expected of alternative medical forms if they are to gain any credibility. Reams of anecdotes and years of study are unacceptable (Glasser 1988); even thousands of years of history, as with TCM, have only vaguely swayed scientists to begin studies. The onus is still on the alternative form to prove itself to biomedicine. There are obviously many problems with this concept of proving and the belief in some objective absolute of medicine.

Science is very exclusive in its understanding of illness and therefore, also in its acceptance of new approaches. This is to say, that biomedicine, and Western science in general, understands its own approach as objective and founded in the scientific method; it has the one "true" understanding of the body and its health. Buckman and Sabbagh (1993:171) support this by stating that "[s]cience means a body of knowledge that is objective - observations made by one person or group that can be repeated and verified by other people and other groups." The result is that others have to "match up" to this set of expectations and this usually rules out any other interpretations that are not based on "scientific explanations." For example, a spiritual understanding of an illness, or one based on an imbalance of *chi* in the meridians, as with TCM, would be an invalid and illogical explanation. More important to this point is that if an idea can not be proven wrong, all other conditions being equal, it may then be considered right; "the essence of a scientific process is the attempt at disproving the hypothesis" (Buckman and Sabbagh 1993:172). In science, it is essential that an experiment be able to be proven wrong; that is to say that the mechanisms must be such that it is not impossible to prove them wrong. Unfortunately, this requirement is often impossible with cross-cultural medicine since there are different understandings of the workings of health that cannot always be accounted for by Western science.

The idea of objectivity is one of the most crucial concepts in cross-cultural research. Objective is defined in the Concise Oxford Dictionary (1990) as "external to the mind; actually existing; real." As most researchers in anthropology should realize, and hopefully many other people, reality is subjective. It is necessary for researchers

and policy makers, and in general, people with influence, not to be condescending or to harbour a colonial attitude. If people say that their world view is different and their understanding of the body and health is different, then there must be room to explore and begin to understand these ideas.

It is essential that people be aware of their biases in any situation, but especially so for a dominating force of any kind. Buckman and Sabbagh (1993:171) explain a danger for Western scientific thinking; it is "thoroughly believable and totally unintelligible." The danger is that there is an acceptance in its entirety of science, often blindly and without a complete understanding.

If one were to say that the heart pumps blood throughout the body, this is a scientific view of the function of that organ. But what if someone suggests that the heart is the seat of the soul and has great effects on the mind and other parts of the body? This claim could be reconciled with a scientific understanding by saying that the heart is a pump which affects the general feelings of the person that can, in turn result in other physiological developments. It does not seem so difficult to expand possible understandings in this way, but biomedicine does not, and so far, will not address issues that are based on anything other than physical conditions. Scientific "proof," like any other "proof," is not real in the sense of being objective, but should be seen as the production of evidence that supports a particular logical system (D.Young, personal communication).

Although the general structure of biomedicine is still quite conservative, there are some changes occurring in biomedicine towards a greater acceptance of mind/body

relationships (see Moyer 1993) but these are exceptional cases. The reason they are exceptional is partly because Western medicine does not understand these possibilities from within its own world view of Western science. More importantly though, attempts have not been made in a manner that would allow Western science to begin to accept (if not explain) alternative ways of explaining the body.

One of the areas where biomedicine has done testing of mind/body relationships is with the placebo phenomenon (Hahn 1983; Moyer 1993; Weil 1988). The placebo phenomenon is defined as the "incidental -and sometimes accidental- useful effects of the whole intervention" (Buckman and Sabbagh 1993:155). The placebo effect has shown in some cases, positive results for 33 to 60 % of patients (Buckman and Sabbagh 1993:158). The authors state that "almost any physical or psychological symptom can be altered by placebo effects" (ibid:159). Obviously deeper and more serious study of this area is warranted. Yet understandably, one of the difficult issues with placebos is that although improvements are associated with this treatment, the relationship between the mind and the body is generally unknown in biomedicine. It is precisely these unaccountable variables that can not be placed within the biomedical paradigm.

Yet it is stated that the potency of the placebo is very high: "it appears that placebo is about 55-60% as effective as active medication, irrespective of the potency of these active medications" (Rossi 1986). More and more therapists are using and researching the mind-body relationship that biomedicine is only beginning to try to find theories to explain the connection. Whether it is faith healing, shamanism, humour, voodoo death or a broken heart, the obvious physical effects on the body are resulting

in biomedicine attempting to find these unknown mechanisms. "[P]ositive attitudes and emotions can affect the biochemistry of the body to facilitate rejuvenation and health" (Cousins in Rossi 1986).

Despite the intolerance of biomedicine and its insistence upon objectivity, there was a time when the Western medical tradition was more wholistic in its outlook. In its beginnings, Western medicine required a very wholistic approach. As was mentioned previously, the enviros were a critical part of diagnosis, prognosis and treatment. For example, besides understanding the stress levels an individual was under, it was equally important to understand the winds, the atmospheric changes, and the locale of a person. Preferably then, a physician lived with a patient, but this would only be for the very wealthy. Still, the Hippocratic tradition and Galenic medicine denoted the importance of a wholistic understanding for maintaining health and treating illness (Lloyd 1983).

Yet even at the beginning of Western medicine, factions existed. The surgeons, apothecaries, university trained and folk physicians all competed for positions of status (Siraisi 1990). The result was a blend with an emphasis on university training.

Ultimately, one of the greatest changes to Western thinking and medicine was brought about by Rene Descartes referred to earlier. As knowledge evolved, reductionist notions of the body resulted in some major accomplishments, but they also led to the domination over all other forms of knowledge, as Western power spread around the world taking with it Western ideologies. The result, intentional or not, has been a marginalization of other forms, if not outright oppression. More specifically,

many forms become designated as specialties rather than being allowed to practice in all the areas that they are fully competent to treat. For example, Aboriginal healing and shamanism are often viewed as psychological treatments (Waldram 1995:206), or Traditional Chinese Medicine is seen as good in acupuncture while the herbal remedies are played down. Moreover, the biomedical practitioners who specialize in these areas continue to reject alternative systems as wholes. The result is an ineffective collaboration and a fragmentation of knowledge. Although Aboriginal medicine is viewed as effective for mental problems, psychiatrists do not usually work with Aboriginal healers in this area (Waldram 1995:206). Pharmaceutical companies want the medicinal plant knowledge. Only recently have attempts to incorporate the whole system been implemented (Royal Alexandra Project, Edmonton, Alberta).

Alternatives to the biomedical system of healing exist throughout the world and are very diverse within any given society. For the betterment of health and for reasons associated with socio-economic and cultural factors, people have developed and used a variety of therapies to treat conditions, rid themselves of disease and prevent illness. As a result of population shifting and globalization of the world, North America has had access to many of these forms: Ayurvedic medicine from India, Traditional Chinese Medicine from Asia, Aboriginal North American healing, midwifery, herbalism and a host of natural medicines.

Some of these systems developed as a reaction to the dominant system which was felt to be ineffective or even harmful. Homeopathy developed in the 1800s in part as a reaction to the *heroic* medicine of the day (Weil 1988:12-14). The methods of

bleeding, purging, sweating and vomiting were part of the orthodox medicine of the day and contrasted to what developed in homeopathy as a more gentle way to affect illness and health.

Homeopathy was successful, gained acceptance with patients and some practitioners, and set up schools in North America. As it was deemed more successful at treating certain ailments, such as cholera, it had certain support (Weil 1988:20). According to Weil, " [t]he excesses of heroic medicine and the arrogant political behaviour of its practitioners produced a strong reaction among citizens of the young country" (Weil 1988:21). Eventually this resulted in the Popular Health Movement in the 1850s, the goal of which was "nothing less than the repeal of all medical licensing laws, allowing people who considered themselves qualified to practice any form of healing they deemed worthwhile" (ibid:21). The movement became highly effective and was accepted in many state legislatures. The battle ensued as the orthodox practitioners of Western medicine formed the American Medical Association in 1846 (ibid:22). The AMA set very strict guidelines of acceptance and excluded many, including women, and abolished all association with any known homeopaths (ibid:22-23). We know who the "winners" were. But it was not based on arguments or conclusions concerning the best health care for patients, but on basic political manoeuvring. The Popular Health Movement dissolved, homeopathy was filled with

"internal strife that weakened it as a political force"; the much disdained heroic medicine began to be replaced with less dramatic treatments[2] (ibid:23).

Yet the case around the world for homeopathy today is much different. It is strong in India, Latin America, England, Germany, France, Greece, Eastern Europe and Sri Lanka (Weil 1988:24). It is also growing again in North America. Why it is growing is relevant to this thesis. The attitudes of many patients and practitioners today can be equated to those of the Popular Health Movement of the 19th century. The rise of the use of alternative medicine today in North America is a reaction to biomedicine. People are unhappy with the lack of relevance to their lives as well as the often critical side effects of current treatments. The result has been an embracing of wholistic philosophies (especially in the 1980s) and a current trend towards alternative therapies for treatment and prevention.

Benefits of Collaboration

There is a need for collaboration between different forms of healing. "[W]e are now hearing calls to incorporate elements of Aboriginal medicine into biomedicine, even to the point of formal collaboration between the practitioners in the two systems" (Waldram 1995:204). Collaboration of a certain type has already occurred in several places in Canada (see Waldram 1995:205) and the United States. In Edmonton, Alberta for example, the Royal Alexandra Hospital has an Aboriginal healer in the

---

[2]Although the treatments were less dramatic, they were not therefore less harmful. As Weil (1988:23) points out, they replaced some bleeding and purging in the 1860s with narcotics and alcohol treatments.

hospital to assist with Aboriginal patients and policy (Dr. David Young, personal communication). As well, many physicians are now incorporating aspects of alternative health care, such as chelation therapy, acupressure and meditation, into their practices.

It is essential to recognize that the term "integration" will not be used in this paper. I have opted instead for the term "intersection". The reason is that the term integration has many unfortunate connotations. It has been used differently in the literature, often simply referring to the various aspects of interaction between two traditions. It has been understood by Neumann (1982:1819) as a maximum use of systems resulting in a "beneficial coexistence." It is also possible to infer that integration will result in the continued dominance of one system over the other with only "aspects" of the latter being integrated. This may be perceived as exploitation and co-option. D.Young (1994:9) defines an integrated system as, "a new, more comprehensive system." The problem with this, as Young points out, is that integrating alternative healing into biomedicine does not result in health care pluralism but in "a new orthodoxy" and the "abuse of power which can result in any system dominated by a single healing tradition" (D.Young 1994:10). The term intersection used in this thesis can be thought of as a meeting place where one or more avenues of thought may converge, yet maintain their own separate paths. I hope to develop a picture of collaboration as defined in D.Young's 1994 article. He presents a model of health care pluralism with five different forms of relationships that could possibly exist: intolerant orthodoxy, tolerant orthodoxy, parallel traditions, collaboration and

integration (D.Young 1994:20). He says that "[i]n Type 4, the practitioners of two or more legally recognized healing traditions engage in active collaboration, resulting in a combination of therapeutic techniques..." (ibid:5). I feel this and a parallel diagnostic system would ultimately result in at least "adequate" health care for all people. Having access to the benefits of all available systems would result in far more efficient health care.

One of the most important reasons for the growing interest in the intersection of alternative and biomedicine is that there are many areas and groups of people who do not receive adequate health care (Pearce 1982:1611). The masses of rural people in developing countries are not able to be reached by biomedicine, for a multitude of reasons. This is also true in Western countries, including North America (Davis 1988). It is suggested that local healers could make up for the absence of treatment in these rural areas (A.Young 1983:1210). However, it is not as simple as training and using these healers as a type of paramedic. Many, such as A.Young (1983), would see them integrated into a biomedical situation. Integrated, in this sense is to teach them new biomedical abilities and not necessarily to allow them to practice their own healing. It is therefore essential to establish a level of standardization to protect not only the patients, but also the practitioners from losing their rights to their knowledge as well as a mis-use of that knowledge.

There are many benefits to a collaborative approach to medical pluralism. These include greater access to effective health care, greater knowledge of alternative medicine and practices, and more affordable and culturally sensitive health care.

However, if the results were all beneficial, collaboration would not be so difficult. Fears and uncertainties slow and retard the process of developing a pluralistic system of wholistic health care.

Efficacy Studies: Benefits and Problems

> Logic is not enough. We must be willing to evaluate our medical traditions, habits, and therapy by scientific means (Glasser 1980:4).

As can be seen from the previous section, collaboration between medical systems is a highly eclectic area where a variety of relationships are developing. But the more we attempt to understand each system as a sub-culture, the better we will be able to mediate between them. As with all mediation, the brokers have to be aware of the ethics involved - those of the researchers' own biases as well as those of the "informants." To understand efficacy we must understand the philosophical foundations of the performances/presentations from each enclave and the differences that have characterized them in the past.

The obstacles to conducting efficacy studies are often the same obstacles as those placed in the way of collaboration: fear of status loss, lack of understanding, and fear of exploitation. Western scientists demand proof of efficacy, as do many patients. Many alternative practitioners and their supporters reject it. Part of the fear is expressed in the question: why should people put their knowledge on the "laboratory table" so that people who do not understand the basic concepts can dismiss it? This may, for some practitioners, be a fear of being viewed as fraudulent if the results of studies do not verify their practices. For many practitioners, the results of this

"scientific" testing have been very frustrating. They may agree to testing, without understanding the implications of "test results"; they may also be frustrated at the lack of input they have into the design of the study. The reductionist methods of Western science have provided an effective (debatably) way to evaluate biomedicine, but they are not effective for all forms of alternative healing methods.

The benefits however, of having someone do research on an alternative form of healing can be numerous. First of all, attention is drawn towards it; people hear about it and become interested. The fact that there is some money being put forward to conduct research in that area indicates potential. If the alternative form of healing attracts enough attention, additional research funds may become available. This would be a way for traditional medicine to get a foot in the door. Yet, as we develop appropriate ways to study efficacy, we must keep in mind that failure to produce desired results, does not mean the practice being studied is therefore fraudulent or inefficacious. It may be that it simply has been tested in an inappropriate manner.

There are legitimate concerns over the use of alternative and traditional practices. Their legitimacy lies in the fact that people may misuse their positions as alternative practitioners, especially since they are not regulated or their practices standardized[3], as in the case of biomedicine (personal communication, Health Canada;

---

[3]Standardization is desired by the more established therapies and systems. Homeopathic physicians and acupuncturists maintain membership lists of practitioners. If new practitioners come into an area, the associations, although not a mandatory organization, will know if that person is legitimate. This "legitimacy" is based on the associations' standards of where and if they received their education, their practice history, etc... (personal communications, Dr. H.S.Sandhar, Dr. Steven Aung).

College of Physicians and Surgeons of Alberta). In these situations it is possible for fraudulent and misinformed people to give advice and treatment to unknowing patients. Yet it must be noted that this can and does occur in any system, biomedicine included.

A large fear that many have been addressing recently is that traditional ways are facing cultural extinction, or that indigenous peoples are facing a loss of control over their knowledge (Landy 1977; Ademuwagun 1979:161; Pearce 1982:1613). In medicine, this is a very real fear as traditional knowledge is being exploited by pharmaceutical companies and anyone else who can make money from these ideas (see discussions of intellectual property rights). If healers share their knowledge, will the dominant system take what serves their purposes and negate the healer? They may try to do this with botanical information. However there is much more involved in alternative therapies than simply the plants used. The idea that curing may necessitate using ritual is difficult for a biomedical doctor to accept.

One difficulty in efficacy studies is the fact that current standards would require a researcher to study a healing practice outside of its cultural context. So much is bound up in the performance of any healing ritual that when a study is done in a laboratory-type setting, the results are always poor. As Waldram points out "[t]his is a difficult and potentially dangerous type of experiment, since it requires the removal of the treatment from its proper cultural context and evaluation using standards other than those for which the treatment was devised" (Waldram 1995:209). This can be said

about biomedicine as well: a patient who receives medication from a caring nurse in a hospital is shown to heal faster. Therefore the studies that are done on some drugs might show a skewed result simply because interpersonal variables are not accounted for. Essentially the interpersonal variables are those which involve the mind-body relationship, and this is exactly the area in which biomedicine has no theory.

Efficacy studies of alternative medicine are not only questioned by biomedicine because of the difficulties they present; many alternative healers ask why it is that they should subject themselves to these studies. In the case of Aboriginal medicine, Waldram suggests that it may seem as though there "is no need to 'prove' its efficacy according to scientific principles." But, he continues, "there are others who believe that limited scientific study is essential to having Aboriginal medicine accepted by Aboriginal and non-Aboriginal patients and by health care administrators and funding agencies" (Waldram 1995:209).

Although these appear to be fundamental differences I would argue two things: first, healing systems are not always as different as they are often believed to be; second, despite the differences, there is room for efficacy studies; they just cannot be done from a strictly biomedicine perspective. Waldram (1995:215) states quite rigorously that because of the fundamental differences and the rigidity of science, there are demands that Aboriginal medicine be "examined scientifically or else will reject it as faith - that is, as inherently unscientific." This has been the case and still is the hard line that is seen in some media and publications. However, as this thesis hopes to point out, biomedicine is changing rapidly. Many people are examining more closely the

mind-body interaction that has been for so long unexplainable and therefore ignored or dismissed. People are also applying pressure for alternative forms to become more accessible and accountable. There should be no problem with this. Researchers should be free to do efficacy studies with alternative healers; the nature of these efficacy studies will depend on what the healers wish to have done (see D.Young, 1989).

The scientific method is not the only way to effectively evaluate alternative medicine. Biomedicine places the onus on alternative medicines to prove themselves in ways so rigorous that, not only might they be impossible, but they are not required by biomedicine itself.

Even if the dominant biomedical system wants to begin to explore some alternatives in medicine, how can this happen? It so far seems that proof is necessary to sway the doctors and scientists. It seems to be a problem ethically and practically for many alternative practitioners and their supporters. The desire on the part of Western scientists to have scientific "proof" for the way a particular healing technique works (Audet 1994:1474) requires concepts to be taken out of a particular world view and way of understanding. The result is a seemingly impossible dilemma. If it could be accepted that objectivity is only relative to its worldview - objective only within a subjective setting - then this "proving" involves little more than putting things in a framework that Western scientists can understand.

Role of Medical Anthropology

Glasser (1988:1463) emphasizes the need for anthropologists to be aware of biases they may have and to not "continue to give unconditional credence to traditional authoritative medicine." His article, in general, calls for a responsible approach by anthropologists which does not glorify traditional practices on the basis of a perhaps romantic idea or simply on the basis of being not-Western. Although it seems that Glasser (1988:1463) is calling precisely for objective proof of alternative forms, his points are well made in regard to the role anthropologists must play if collaboration is to occur between seemingly opposing systems. He says that anthropologists have a "unique opportunity to put the issue to rest." I would agree that as trained cultural brokers there is considerable opportunity to use our abilities to create the occasion for understanding in this area. However, the odds of putting this issue to rest, as he puts it, are low. The bringing together of world views to a point of understanding will not be easy or simple, but rather a continuous process of learning and a re-evaluation of ideas.

Medical anthropology has been growing and developing and has affected the changing perspective on health care of patients and practitioners; medical anthropology's role has become more decisive. As can be seen by such studies as that of Kishan Garhi in North India and the Navajo-Cornell study (Anderson 1996:161-167), biomedical research and medical anthropology can work together effectively to

understand the greater implications of health care as they exist specifically within each culture. This theme will be developed in the final chapter of the thesis.

CHAPTER THREE:
EFFICACY STUDIES

> if orthodox medical practice was or is more scientific than any of its unorthodox competitors, this fact alone does not necessarily result in a more efficacious or satisfactory outcome with respect to the illness or problem presented (Gevitz 1995:130).

This chapter will present efficacy studies that have been done on various forms of alternative therapies, discussing their structure and their effectiveness. An attempt was made to find studies that were structured in a variety of ways. However, the majority of efficacy studies of alternative forms of medicine have used a biomedical framework.

What is Efficacy

Efficacy refers to producing a desired result (Concise Oxford English 1990). An efficacy study involves examining a certain process and evaluating whether it works in the way it proposes. The boundaries then, are set by the desired results, and they can be structured for whatever those in control want.

Efficacy studies in medicine involve validating, or not validating, a desired outcome of a medical treatment. That outcome may include a number of options such as cures, pain reduction, general or specific symptom reduction, safety and cost-effectiveness. Efficacy studies are an evaluation of types of procedures, their structures and their outcomes (Patel 1987).

In Western science, the reductionist approach believes that by accounting for all possible variables, eliminating unknown factors and isolating the particulars of a

process, the effects of certain relationships can be observed and therefore verified or not. In biomedical science, this is optimally done through the random, controlled, double-blind study[4]. The random selection of patients is believed to ensure a non-biased "data" set as well as allowing for the ability to generalize to the larger population more accurately. A non-biased data set is important if the results are not to be skewed. An example is starting a study with patients who have relatively equal health conditions and/or shared definitions of those conditions. One study that showed positive results for faith healing in heart disease patients was criticized because it was believed by some that the study group had greater heart health to begin with than the control group (Anderson 1996:383, Byrd 1988).

Random assignation to control groups is equally important. A patient should not be seen to have an expectation towards one treatment or another. However, this is often difficult. Just knowing of the study creates certain expectations. The idea of studies without bias is accepted too readily without proper recognition of the biases that pervade all cultural systems.

It is believed that it is necessary to compare the results of the study group to a control group, one which does not receive the same treatment being studied (often a non-treatment). This control group allows for the observation of many variables such as the natural course of the illness, or placebo, or mind/body healing that, as yet, cannot be measured in biomedicine. Studies that do not use controls have been

---

[4]Patel (1987) does an excellent job of defining these trials as they apply to alternative medicines, including a breakdown of clinical evaluation and economic evaluation.

criticized for failing to rule out other variables that might explain the changes in the study group.

Finally, blindness, double-blind and sometimes triple-blind is believed to be the final reductionist thread that closes out unknown variables. This means the patient, as well as the person administering the treatment, does not know who belongs to which group. Often, the person evaluating the outcome is also unaware as to which patients have had which treatments. It is believed that this eliminates bias, based on the assumption that mental states can somehow affect physical outcome.

The random, controlled, double-blind study is the optimal structure for biomedicine. Even though many studies do not follow this structure, it is what is expected, especially of new forms of healing.

Variables of a Study

Faith in the scientific method has spilled over to the general public, who may never engage in a rigorous scientific experiment. Yet, they are willing to believe that Western science cannot be wrong. For example, one of the best marketing tools is to present a product with information on its validity from a "scientist,"at least someone symbolically endowed; they carry a clipboard, wear glasses, are in a lab, and are associated with the most pervasive symbol, the white laboratory coat.

The search for validation of alternative therapies has been an inconsistent area of research, most often considered questionable by the biomedical sphere. Many of the studies are done by the practitioners and the results published in journals that are not viewed as reputable.

Most of the studies that I found involve those forms of healing that were able to subject themselves to the structure of biomedical investigation. They include homeopathy, chiropractic, acupuncture, yoga and relaxation therapies, indigenous healing, healing energies and faith healing. Some therapies have been rigorously studied, others have been ignored, and still others prohibit any form of testing being done on them.

The efficacy studies I found of alternative therapies are outlined briefly below. As the data were collected, I recorded the following kinds of information: type of therapy investigated, structure of study (random, controlled, type of control, "blindness"), the stated objective, the methods (especially of measurement for later reference), the results, who did the study (their professional assignation), where the study was published and in what year. This was not an attempt to do meta-analysis of treatments for efficaciousness (I was not looking at many studies and the results to validate them). The objective was to establish what methods are primarily used by researchers, what might be some of the methodological variations that could facilitate a greater acceptance of these studies and finally, how an amalgamation of methods may be brought forward to be used as "new" methods.

It is obvious why type, structure, purpose, methods, and results were noted. I felt it important to note who conducted the study to see if collaboration was occurring and to see the extent of the training of the specialists (such as acupuncturists) who were performing the particular therapies. I found that physicians often performed treatments with only minimal training (Morton 1993). Also, it was brought to my attention early

in my research that where a study is published has everything to do with its acceptance, subsequent studies, and funding (Dr. Pamela Brink, personal communication). As well, there does not seem to be much communication between the different schools of thought; they are not reading each others' journals (Joyce 1994:1280). Biomedical people especially, are not reading alternative medical publications. Part of this problem is addressed in the next section.

Publication of Studies

Accessibility to certain studies was difficult. Since many studies have been done by alternative practitioners, they are not published in mainstream journals (personal communication, various practitioners). Although some appear on CD ROMS and in the indices, they are often too far outside the field of academia to locate. For example, the *Journal of Manipulative and Physiological Therapies* is a well-referenced journal for chiropractic. The only way to access it is through an interlibrary loan, and even then I did not receive everything I needed. Moreover, many studies are not located by database searches since alternative journals are not on the system. Therefore accessing articles was almost impossible. As well, the library at the university where I did my research has limited subscriptions to alternative journals. The local provincial library, the Alberta Health Library had a slightly more diverse and more extensive collection of non-academic journals. Yet even this library was still quite mainstream, although it did provide a fairly substantial literature on chiropractic. One of the few ways to find alternative journals is to access the private collections of practitioners. The internet and the World Wide Web offer a greater chance of accessing alternative

therapy information. This source of information will undoubtedly become more important in the future.

The fact that libraries do not carry many alternative publications is interesting and relevant. Although journal subscriptions are expensive, the journals that a library carries will indirectly affect the general knowledge that is produced by an institution. Interlibrary loans are useful, but if material is not there when people need it, it will affect their research in different ways and dictate what will be researched.

Review of a Sample of the Literature

"Standard" testing in the following summaries refers to studies that randomly assigned the patients to the study, used a control group, and had an element of "blindness" to it.

Homeopathy

The submission and acceptance of standard testing of homeopathy, and all forms of alternative therapies, into "accepted" journals has been extremely limited (Turner 1980, Jacobs 1994). In 1980, Turner wrote in *The British Journal of Clinical Pharmacology* that this is,

> in part a reflection of the inherent difficulties of carrying out controlled clinical trials of homoeopathic remedies, using the same methods that have been established for the investigations in depth of orthodox treatment (Turner 1980:443).

The originator of homeopathy, Samuel Christian Hahnemann, a German biomedical doctor, while creating the theory of homeopathy, did extensive testing (Weil 1988:12-20). Weil suggests that many of the rigorous tests that are now used

and expected in pharmacology came from Hahnemann's Organon of Medicine. While doing a translation of a pharmacological text, Hahnemann realized the incredible lack of any "experimental basis" or a standard for measuring the efficacy or negative effects of pharmaceuticals (ibid:14). He then drew up a list of experimental procedures which led Weil to suggest that Hahnemann could be understood as "the father of experimental pharmacology" (ibid:14).

Summaries of four studies

1) Gibson et al. (1980) was a standard study evaluating homeopathy and rheumatoid arthritis and published in the *British Journal of Clinical Pharmacology*. It concluded that the addition of homeopathic treatment produced "significant improvement" (ibid:453). This study was double-blind and both groups, control and treatment, used orthodox treatments. The control group received a placebo while the active group received a variety of homeopathic remedies. Measurements and assessments were done before, during and after the administration of the therapies. The measurements were for grip strength, mobility, stiffness, functioning and pain on a visual analogue scale (VAS). As well, results were assessed by doctors trained in homeopathy previous to the study, and later assessed by an independent investigation. The patients also provided their own assessments of any improvements. Significant improvements were found for stiffness and grip strength, articular index and subjective pain. One of the important results that this study reports is that there were no side effects found in association with the homeopathic remedies. The authors then suggest that

"homoeopathy is a safer and probably no less effective alternative to present-day secondary drugs" (ibid:458).

2) Jacobs et al. (1994) produced a study examining homeopathy and acute childhood diarrhea. This study, published in *Pediatrics*, is a standard one that resulted in a statistically significant decrease in the duration of the diarrhea when using homeopathic therapies. This testing, as in the case of Gibson's, allowed for individualized treatments, so that 18 different medicines were used on the 81 patients, aged 6 months to 5 years.

Trained homeopathic practitioners were used in the study, and assessments before and after were made to continuously keep the parameters of the patients' condition within a comparable standard. The authors identify two important concerns with the study: the subjectivity of patient/parent reporting on the nature of the progression/reduction of the illness, and the fact that since homeopathy, by nature is so individualized, they were evaluating "the **system** of homeopathic treatment" (ibid:724) rather than a specific remedy as might be the case in a biomedical pharmacological study.

3) A study of homeopathy and its effectiveness for allergic conjunctivitis was done by Abelson et al. (1996) and published *in Biological Therapy: Journal of Natural Medicine*. This journal was acquired through a homeopathic clinic and was not found on any database system accessed during research. The study was standard, using a placebo with the control group, but only the patients were "blind." The results showed "drug treated [homeopathic] eyes have shown significant reductions in the signs and

symptoms of acute allergic conjunctivitis, while placebo treated eyes have not" (ibid:164). No adverse effects were reported. The 47 patients were assessed prior to setting up a baseline, and followed up at the three treatment times.

4) The fourth study was a meta-analysis of efficacy trials of homeopathy from controlled trials in humans (many studies of homeopathy are done with animals). The purpose of mentioning this study is to present the type of methods and measurements that the researchers deemed important in a legitimate rendering of the data. The authors stressed that the studies had to be controlled and double blind with predefined criteria for good methodology. Although they found generally positive results for the use of homeopathy, they stressed that most trials were of a "low methodological quality" (ibid:316). As well, they mentioned that the role of publication bias creates an unknown type of variable. Although the authors reported that one third of the studies were in regular journals, this is not evident in their bibliography. Of the studies they examined "world wide," approximately five were from recognized standard biomedical journals written in English, 56 were foreign language journals, 14 were recognizable as homeopathic journals and many more studies were proceedings from homeopathic conferences. The fact that most of their studies, although desiring international representation, were European based is indicative of the publication bias that has been discussed previously. Part of the bias that may affect studies on the efficaciousness of homeopathy is that the more negative studies may be the ones chosen for publication in the mainstream journals. Equally, the "alternative" journals may only accept those tests with positive results (Kleijnen et al. 1991:321). In the explanation of their data

collection they stressed that it took a team a period of more than three years to access, collect and assess this information.

In their final conclusions the authors state that they are "ready to accept that homoeopathy can be efficacious, if only the mechanism of action were more plausible" (ibid:321). This helps explain why therapies that are seen as "alternative," "fringe" or "quackery" are reluctant to subject their theories to biomedical scientific testing.

After the studies are done, and redone and proven statistically significant and efficacious, they are still rejected because biomedicine does not understand the mechanisms that are believed to be activating the healing. Yet, the general public, who hardly understands the workings of biomedicine, is supposed to accept whatever studies the biomedical field says are efficacious. Developing this line of logic, does the pediatric specialist understand the details of testing for the efficaciousness of neurological treatments or any other specialization within the biomedical paradigm?

It appears that the rigorous testing of alternative medicine, in this case, homeopathy, is unusually stringent. Although there may be potentially dangerous side effects to any therapy, most homeopathic remedies produce no side effects. This might be expected since many biomedical researchers feel that there are no active ingredients to harm a patient due to the highly diluted nature of homeopathic remedies. If this is the case, why is there so much fear of homeopathy? If efficacy has been shown within their own paradigm of study, why does biomedicine still reject the findings?

One of the noted methodological problems involved in studying the efficacy of homeopathy is the individualized nature of the treatments; often each patient has a

different mixture for the same ailment. This is due to the case history of the patient and his/her personal "regimen" (personal communication, Dr. Sandhar, homeopath). This may be seen as a methodological problem. Yet as Jacobs et al. (1994) suggest, what is tested is the system and not a particular remedy.

Chiropractic

Chiropractic has been paid greater attention than many other alternative forms of medicine and this may be due in part to a strong association and lobby. Once a practice has strong support it is easier to gather resources, produce literature, conduct studies and affect policy. Chiropractic, however suspect by some, is a widely accessed therapy in North America. In Alberta, universal health care pays for a portion of the cost for patients who wish to use this therapy.

Summaries of four studies

1) Sims-Williams et al. published a 1978 study evaluating spinal manipulation. This was a standard study: double blind, random assignation of subjects (a total of 94 patients) to one of the two groups receiving manipulative therapy or placebo-physio. Measurement included a variety of common tests for chiropractic evaluation: extension, flexion, and various other movement measures. As well, subjective assessments of pain, as well as a return to normal activity was charted. This study reported initial improvements in the manipulative therapy group, but on a follow-up study at three months, found less difference between the groups, and at one year, the two groups were virtually identical. The assessments were done by a physician and the

manipulations were done by a physiotherapist. This study was published in the *British Medical Journal.*

This case begins to reveal many problems that have occurred in the studies of chiropractic as well as alternative forms of medicine in general. The field of chiropractic has grown to a large discipline and as with any area, sub-divisions occur. The type of therapy that is used in many studies could differ quite greatly and is not always accounted for in the reporting, making a summary of data difficult.

With this particular study, the authors report that there is a high rate of spontaneous resolution in low back pain. While this assessment may or may not be accurate, does this discount chiropractic treatments or their tests of efficacy? If this were true, the same argument could be used against all treatments.

Methodologically, this study does not elaborate on the issue of blindness. The problem of placebo physiotherapy encounters the same problems as placebo acupuncture discussed in the next section. The idea of placebo physiotherapy is a difficult concept for many to understand and needs to be explained as completely as possible, including the effects it might have on outcomes.

2) Nwuga completed a study in 1982 comparing conventional and "manipulative" treatments for low back pain. This was not a blind study, but it was random. One group used shortwave diathermy, isometric exercises and education concerning proper movement; the other group used spinal manipulation and education, with manipulations being performed by a physiotherapist. Measurements included evaluations of flexion, extension, rotation and leg raising. The results on the 51 patients reported that there

was significant difference between the two groups with manipulation being superior to conventional therapy.

3) Meade et al. compared the treatments of chiropractic care and hospital outpatient treatment. This 1990 study kept records on 741 patients. It was a random controlled study and used measurements of changes in pain disability, straight leg raises, lumbar flexion and a questionnaire for patients. The results reported chiropractic to be more efficacious, particularly for chronic and severe back pain.

4) In 1993, the Ontario Ministry of Health commissioned a comprehensive meta-analytical study of chiropractic care. The result was a report compiled by Pran Manga et al. titled *The Effectiveness and Cost-effectiveness of Chiropractic Management of Low-Back Pain.* This report is comprehensive, carefully identifying many aspects of chiropractic and efficacy studies that need to be made more clear for future evaluations. It also identifies patient satisfaction as an important aspect when considering chiropractic (ibid:chapter 6).

In brief the findings concluded: "on the evidence, particularly the most scientifically valid clinical studies, spinal manipulation applied by chiropractors is shown to be more effective than alternate treatments for low back pain" (ibid:11). It also emphasizes that no clinical or case-controlled study proved any lack of safety, adding that it is "safer than medical management of low-back pain" (ibid:11). It adds that there is evidence that spinal manipulations may be less safe if performed by non-chiropractic professionals (ibid:11).

It also reports methodological difficulties and outlines what is needed for acceptable studies in chiropractic. As was mentioned in the previous summary, a standardization of therapies is necessary and the subjective nature of back pain presents variables that need to be accounted for, as well as possible. However, there are these sorts of subjective elements that need to be dealt with in any study. Manga reports the following as necessary for good studies: randomization, minimal patient attrition, blind outcome assessment, compliance, minimal contamination, adequate statistical power, demographics of the patients, clinical descriptions of patients, description of intervention, reporting of relevant outcomes (ibid:35).

Although Manga's report is a meta-analysis, it is discussed here to elucidate some of the standards that are emphasized for "proper" testing, in this case, chiropractic care. These requirements are important and indicate a need for standardization. They also are problematic in some ways, which will be discussed in the general discussion segment at the end of this chapter. The idea of standardization and its effects in evaluation of systems of belief will be discussed in the concluding chapter.

Traditional Chinese Medicine

Traditional Chinese medicine is a complex system of understanding health and healing that has existed for thousands of years and it incorporates many types of therapies. There are a variety of procedures for diagnosis; theories of the body and its interaction with the plethora of elements affecting health; and treatment techniques

ranging from acupuncture, acupressure, and herbal therapies; as well as treatments with a spiritual basis such as Qi Gong and Tai Chi.

The aspect of TCM which has greatest acceptance in North America is acupuncture. A number of studies and journals are dedicated to better understanding the functions and the efficacy of this therapy. I will give a brief summary of four studies followed by a discussion of the methodologies of the study structures. Again, it is necessary to keep in mind that the evaluation of a complete system of medicine based on an entirely different set of cultural constructs is problematic.

Summaries of four studies

1) Thomas et al. published a 1991 study evaluating the effects of acupuncture for the chronic pain of cervical osteoarthritis. Their study was standard in that the patients were randomly assigned to groups, the patients were blinded and the control groups included an acupuncture group, sham-acupuncture, biomedically treated group (diazepam) and a placebo-diazepam.

The testing used "experienced" acupuncturists and gives details of the acupuncture points used and the process of the needling (ibid:96). The measurements for the pain were primarily VAS for intensity and unpleasantness. The results showed a variety of significant effects on pain, both intensity and unpleasantness, for all four groups (ibid:98). However, final conclusions state that "when comparing the different modes of treatment acupuncture induced the most significant alleviation of pain and unpleasantness." They also mention the fact that there were no side effects and no risk of intoxication with acupuncture (ibid:99).

This test, published in the *American Journal of Chinese Medicine*, appears to have had a very rigorous methodology; they also identified its limits. They stressed that the low number of 44 patients could have affected the statistical outcome (ibid:98). Another questionable variable is that "osteoarthritic pain responds well to placebo" (ibid:98). This implies that the placebo group would do better than expected. It could also mean that acupuncture might have better results than expected since the osteoarthritic pain responds to anything.

One aspect of this study that will be discussed further in this section is the concept of "sham acupuncture." Sham, although an accurate word, has connotations of fraudulence that are often associated with alternative therapies. The biomedical control is called "placebo" diazepam. Although placebo is also a highly connotative word, sham implies a much more complete "fake." I would argue that any presentation of information is susceptible to the way people will read bias into it. To have a "questionable" practice further associated with a "sham" version further perpetuates or biases the information. In this particular report, the results are primarily positive, but the concern should be noted. As a template or series of templates are developed to analyze cultural systems of healing, it will be imperative, as it is with a scientific experiment, to account for biases. As this thesis points out, those biases occur at fundamental levels of the methodology and extend to include researchers, semantics and the publication hierarchy.

2) Molsberger and Hille published a 1994 study on the effects of acupuncture and chronic pain from tennis elbow which was published in *the British Society for*

Rheumatology. This was a standard study: random, blind patients and evaluators, but not the practitioners; and they used a placebo acupuncture control. Their measurements included a before and after evaluation, assisted by a blind examiner. Prior to treatment, a case history was generated, including patients' attitudes toward acupuncture. The examiner also assisted in the measurement of the pain during physical assessment on a 11-point box scale (ibid:1162-1163).

The acupuncturist was a medical doctor "trained in Chinese acupuncture" (ibid:1163). The test showed acupuncture to be "statistically significant" and has an "intrinsic analgesic effect" (ibid:1162).

This study, even more than the previous study, identify the problems they found with their methodology. This is an important quality in itself for the further development of acceptable studies. It is not to say that identifying the problems that may have affected their outcomes ensures greater reliability in their data; but it makes this study more useful for the purposes of this thesis.

At least two points concerning methodology are important in this report. The first concerns patients' attitude. That researchers collect data on the attitudes is indicative of the realization that the patients' faith in a treatment may have an effect on the outcome, even though the mechanism is not fully understood. The data that have been collected can then be worked into the outcome analysis. Further, the authors emphasize that, although random, the patients, by agreeing to participate, are "self-selected" (ibid:1164). Second, the concept of placebo-acupuncture is explained in greater detail. The authors chose not to insert a needle, but feigned insertion, using a

probe that was not inserted. They explain that "sham-acupuncture" needling, but not acupuncture, raises endorphin levels, causing "mild analgesia" (ibid:1164) simply by stimulation of a point and thereby confounds the data.

3) The effects of acupuncture on exercise-induced asthma was evaluated by Morton, Fazio and Miller in 1993 and reported in the *Annals of Allergy*. This study was considered not standard, partly because although it was single-blind with a random assignation to the control groups, only 17 patients were used, and partly because of the lack of data in general in the report. The controls were groups which received laser acupuncture, placebo acupuncture, salbutamol and no treatment.

Measurements entailed establishing a base-line for lung function beforehand. A variety of biomedical treatments may have been used previously, but not 24 hours before the testing. The acupuncturist was a medical doctor who has studied and uses "the technique."

The results showed that neither acupuncture or placebo acupuncture prevents exercise-induced asthma. However, the authors, although citing that not many studies have been done in this area, state that their results contradict some studies and support others.

4) Liao and Liao report on a study of the efficaciousness of acupuncture on herpes simplex. This 1991 study was published in *Acupuncture and Electro-Therapeutics Research*. This is not a standard experiment, but a case study of five patients treated with acupuncture for their chronic condition. All the patients were previously diagnosed by specialists and family doctors. The authors discuss the variety of herpes

virus that exist, explaining their focus on type 1 and type 2 (ibid:136). The results in their admittedly "very limited experience" found reductions in episodes, longer remissions, and a prevention of occurrences (ibid:136).

There appear to be some very large gaps in their reporting that could have been alleviated by a more balanced presentation of the data. As with the two previous acupuncture studies, these researchers report on the specific acupoints that were used. This seems to be a useful standard in acupuncture testing reports because it allows for retesting (ibid:137).

Each case study that is reported may or may not contain an equal amount of information. When the testing started and at what intervals there was the follow-up is not at all clear. It seems to range from 1977 to 1985 and up to 1991. Usually the patient's pattern of recurrence and remission is reported, but not always. This, combined with the reported effects that certain biomedical treatments may have on an episode, are imperative to know if the effect of acupuncture is to be determined. The non-toxic effects of acupuncture, compared to pharmacological treatments, are emphasized.

One of the potential benefits in the case study approach is the extensive details on the variables pertaining to a patient's health. Many systems of healing, those more wholistic than biomedicine, tend to incorporate a plethora of variables that are no longer taken into account by biomedicine. Yet, people perceive and believe that these elements affect their health. This factor alone is an important element seldom accounted for in North America.

In the Liao and Liao report (1991), although the anecdotes are valuable, the reporting is not well structured; it is inconsistent from case study to case study, which tends to devalue the information on a statistical or quantitative level. However, since the information is based on the actual experiences of people, it has certain validity. It is stories such as these that are encouraging billions of dollars to be spent on alternative forms of medicine (Eisenberg 1993:250).

Relaxation Therapy

Relaxation therapy is a general term that has its roots in Eastern practices, primarily techniques of yoga. Although the entire philosophy of yoga may not be used, what is generally emphasized is the mental effort and the breathing. Yoga is a very complex philosophy which lends itself to health in many ways.

Summaries of three studies

1) Taylor et al. published a report of a standard test evaluating relaxation therapy and its effects on high blood pressure. This 1977 study was published in *Archives of General Psychiatry*. They randomly assigned 31 patients to one of three groups: relaxation therapy, "nonspecific" therapy and medical treatment. Blood pressure was monitored before and throughout the study. The results showed that the relaxation group "achieved a significant blood pressure reduction of greater magnitude that that found in the other two groups" (ibid:341). At a six month follow-up, the relaxation group showed no change, but the non-treatment and medical treatment groups had

shown improvement. The final conclusions are that it is a useful adjunct, but not an alternative.

Many variables are involved in the study, but only a few of them are identified as problematic. Members of the relaxation therapy group were also on different medical treatments (not identified) that fluctuated as patients felt necessary throughout the study. This variable creates a very different set of changing parameters throughout the study. The investigators do provide details on the approach to relaxation that they recommend for their patients, used in conjunction with self-monitor charts and subjective pain reports.

The "nonspecific" treatment was not elaborated upon as much as it should have been. Patients were given preliminary background information on these new techniques and continued to have sessions with the therapist without being involved in any actual therapy. The nature of the training for relaxation therapists was not made clear. A brief discussion of how nonspecific therapy may affect the control group also was needed, especially since the authors state that they "favored the hypothesis that nonspecific therapy would produce a diminution in blood pressure equal to that of the relaxation procedure" (ibid:339).

2) Patel published a 1973 study that evaluated the use of yoga and biofeedback therapy on patients with hypertension. Although the study did not have a standard structure, there was no blinding, and the patients acted as their own controls, it was still published in the *Lancet*. The results, although limited to 20 patients, are presented as favorable for these treatments. Blood pressure and drug use were both reduced, with

16 patients reporting having "direct benefits" and the remaining four having "indirect benefits" (ibid:1055). The patients also reported subjective improvements in their conditions.

Measurements were established for blood pressure previous to the testing. As well, the history of the patients were already known as the author was the patients' physician. This personal relationship was probably crucial for instilling a better regimen of relaxation. However, this advantage was a somewhat unknown variable that the double blind study tried to eliminate. The issue of blindness will be discussed further in the general conclusions of this chapter.

3) Patel et al. did a study of the effects of relaxation for reducing coronary risk, as well as a four year follow up in 1985, published in the *British Medical Journal*. Although the patients were assigned randomly to treatment or control groups, there was no blindness. After an initial baseline for the study was established with the patients having two or more of the following conditions: high blood pressure, high cholesterol and/or a smoking habit. Both groups were provided with some health education for their conditions, but the treatment group was also taught breathing, relaxation and meditation techniques, as well as techniques for the management of stress. At eight weeks and eight months a significant reduction was found for the treatment group in their systolic and diastolic blood pressures. After four years, blood pressure levels were maintained for this group. Reductions in cholesterol and cigarettes smoked was reduced at the first two intervals, but not at the time of the four year follow-up. Also, at the four year follow-up, a greater increase in reports of angina treatment,

hypertension and its complications were reported, along with other heart conditions, for the control group.

Indigenous Healers

Indigenous healing, called by many names such as traditional medicine or shamanism, is a very complex area[5]. The following is a summary of three efficacy studies.

1) Daniel Wirth did a study in 1995, published in *Social Science and Medicine*, to "assess the impact of healer and patient expectations on mental and physical health parameters following a spiritual healing session" (Wirth 1995:249). It was not standard in that the patients were not randomly assigned to groups; there was no control group, and no blinding. Patients were assigned to a high or low expectancy group based on a questionnaire of what they expected. As well, they were designated as "low" or "high"in terms of healer expectations.

The author gathered demographic information, and mental and physical health measures were taken before the spiritual treatment. The author used standardized tests from the National Health Insurance Study conducted by the Rand Corporation (ibid:251-2). Independent medical diagnoses also were taken prior to the testing.

---

[5]The most comprehensive study *of shamanism is Shamanism: Archaic Techniques of Ecstasy* by Mircea Eliade (1968). Although somewhat limited in its discussion of North America, it offers many insights into shamanism.

All the patients had chosen to come to the healer individually and independently. The methods of selection and introduction to the study are extensively laid out in the report, as is the statistical analysis (ibid:252).

Forty-eight individuals were treated, having a variety of conditions: cancer, chronic pain, AIDS, and other "biological" disorders (ibid:256). The healing consisted of a laying on of hands.

The author reports a "statistically significant difference between the pre-treatment and post-treatment scores for all fourteen dependent variables" (identified in his stats section) (ibid:252). He later followed this up in post hoc analysis stating that healer expectations "were more crucial than the patients' in determining the outcome of the treatment sessions" (ibid:257). A five year follow-up was done with various statistical information presented (ibid:257).

An important element of this study was that many of the organic disorders (75%) were not those that would have disappeared within the time frame of the study (three weeks) (ibid:258). This is important for ruling out the placebo effect that is usually thrust upon alternatives that are associated with successful efficacy studies.

Wirth explains that the laying on of hands was used as a "less ceremonial" aspect of healing partly because it "better suited the culture and belief systems of the population examined" (ibid:254). This is a highly important aspect to healing that will become more evident as North America embraces alternatives, but it will also become more evident for analysis of biomedicine. A system of healing is based on a particular

belief system relevant to cultural constructs; if it is not somehow relevant, the efficacy will be affected. This is discussed further in final conclusions.

2) Kleinman and Sung published a 1979 report in *Social Science and Medicine* on indigenous healers in Taiwan. Kleinman, a medical anthropologist, posits many important questions for cross-cultural understandings of healing: how do other forms of healing work? How do they compare with clinical care? Although he addresses many of these questions in a variety of works, this summary will be based on his 1979 study. A further discussion of some of Kleinman's ideas appears in the final chapter.

In the 1979 article, the authors describe 13 patients who visited a tang-ki, indigenous healer. The authors collected demographics of the patients and reported on individual case studies of these patients. It was not a standard clinical test, but a test of efficacy nonetheless. The authors present a history of the healers and their backgrounds (ibid:9), as well as explain the time and location of the healings. Many of the patients had used a variety of treatments to deal with their conditions which ranged from acute to chronic, often arthritis or low back pain, but also chronic unspecified conditions (ibid:12). 83% of the patients reported "partially effective treatment" (ibid:13).

Some issues that the authors discuss reveal the problems for fairly evaluating the efficacy of this therapy. They were unable to examine the patients, physically or psychologically, before or after the treatment. This obviously creates an open area of criticism, except that so few studies of indigenous healers are done, that the information documented is important for this reason alone. As well, subjective analysis

has been shown to be evident in all types of efficacy studies. They note that their sample size is too small and that those patients that refused to be interviewed may have had more negative reports to give, but were intimidated for some reasons.

Once the 83% "partial satisfaction" was established, the authors continue to question the efficaciousness of this treatment. Because it is reported by the patients, this subjective level of efficacy, although important, relevant and necessary for the complete understanding, is only part of the issue of "does it work?" Many of the patients also reported no symptomatic changes. Then, the authors ask, what is it that the patients are reporting on? This raises the issues of "behavioral or social gains" (ibid:7) that are equally relevant for a person's sense of "good health." This is to say, a patient's reporting may be reflective of a greater increase in their mental health, and conceptions of self, thereby an ability to persevere in their life situations.

The authors conclude that "only a few of the cases seem to provide evidence in favour of the efficacy of this indigenous form of healing. We do not find conclusive evidence to show that a single case of a biological-based disease was effectively treated by the tang-ki's therapy alone" (ibid:13). This conclusion, however, is problematic. By their own admission, they did not examine any patients prior to the treatment; therefore it would be difficult to say what was affected and what was not. The fact that the patients may have reported no symptomatic change is as subjective and, thereby, as questionable as the patients reporting satisfaction with the process. Finally, they do focus on biologically based illness, leaving open the idea that health in a broader sense might have been affected. As well, some of the patients were also receiving

biomedical treatments for their illness concurrent with the tang-ki treatment. Without a control, it is difficult to tell what was responsible for the improvement.

3) In 1984, an interdisciplinary team investigated the healing techniques of Russell Willier, a Cree healer form northern Alberta (Morse, Young, Swartz and McConnell 1987; D. Young et al. 1989). They were invited to do so by the healer who wished to have it recorded "in black and white" that Native medicine is powerful and worthy of respect. Willier hoped that the study would attract more Native young people to take up careers as traditional healers. The study involved having the healer treat 10 non-aboriginal patients with psoriasis, a scaly skin disease, with both herbal remedies and traditional ceremonies such as the sweat lodge.

The investigators wished to use a control group, but the healer refused saying it is not the Native way to treat people like guinea pigs. All of his patients would have to receive "real" treatments. Willier did, however, allow the use of modern technology (such as photographs and videotapes) for recording purposes. Although the investigators realized that the absence of a control group would severely limit what could be said about the results, they decided to proceed anyway since it is very rare for a Native healer to allow his/her healing techniques to be documented. They decided that they would have to make the best of the situation, and work within the healer's own frame of reference.

An attempt was made at providing controls by conducting the experiments (which took place over a several-month period) in the basement of an inner-city health clinic in Edmonton, the capital of the Province of Alberta. This setting provided a

controlled environment in which variables like temperature and lighting could be regulated and in which interruptions could be minimized. It also provided an opportunity for doctors at the clinic to examine the patients before, during, and after the experiments. The healer travelled to Edmonton every two weeks to meet with the patients and to administer both topical and internal herbal remedies.

In the opinion of the doctors, six of the patients made significant improvements, but it was not clear that anyone had been completely cured. These six patients agreed with this assessment, emphasizing that even if they had not been completely cured, they were happy with the results since their lesions were less extensive, and were less scaly, itchy, and painful. One of these six patients later reported that he believed himself to be cured of psoriasis - an evaluation he confirmed over the following three years. The other four patients were not significantly affected by the treatment or else relapsed under subsequent conditions of stress in their personal lives.

The healer was disappointed with the results, saying that in his experience, Native patients responded much more positively to the treatment. He blamed the "poor" showing on lack of faith on the part of the patients, as well as failure to faithfully use the medicines in his absence. He also felt that trying to heal in a building rather than in nature was counter-productive. He said he would never again treat patients under such artificial conditions. If non-native patients wished to be treated in the future, they would have to come to the reserve where he lived and receive intensive treatment for five straight days - in the traditional manner.

The investigating team changed its strategy to adopt a case study approach for a second round of experiments. Two non-native patients were selected for treatment on the healer's reserve. Both had such severe cases of psoriasis that they were embarrassed to be seen by others. One patient had dropped out of school and sat at home cloaked in a raincoat, hat, gloves, and dark glasses so even his own parents could not see him. Before going to the reserve for treatment, both patients were seen by Dr. Steven Aung, an Edmonton physician sympathetic to alternative therapies, and both patients were photographed before treatment- one by a professional photographer. Both patients were photographed again immediately following the five-day treatment, and at various intervals after that.

In both cases, the skin began to peel after the treatment, and within two weeks, their bodies seemed to be completely clear of psoriasis. Both patients had come to Willier after conventional therapies failed to help them. One of the patients experienced the return of a few psoriasis pustules on his legs after several months and had to return to the reserve for a one-day treatment session. The treatment was effective and he remained moreorless free of psoriasis over the next two years, at which point the investigators lost contact with him. The other patient is still free of psoriasis 12 years after the original treatment. She too received one-day treatments on a couple of occasions when small itchy spots appeared, but her fears about the return of her psoriasis have so far appeared to be groundless.

Several things need to be pointed out about these experiments. First, the attempt at controls in the first round of experiments was counter-productive; the best

results were achieved in a real-life environment on the reserve. Second, although psoriasis moves in cycles, improving gradually on its own, or vice versa, the improvement of both patients in the second round of experiments was dramatic and immediate. Third, the evidence is not anecdotal. The before and after photographs are close-up, clear. Fourth, many conventional therapies are effective in the short-term, but psoriasis tends to return within a few weeks or months and has to be treated on a regular and continuing basis. The two patients may not have been completely cured as they experienced some recurrence of itchiness on restricted parts of their bodies, but they were both able to resume normal lives without ongoing treatment. Finally, the case study approach allowed the investigators to follow both patients for a relatively long period of time, something that is seldom possible in most efficacy studies.

Two patients do not allow statistical generalizations, but since their cases were well-documented, neither can the results be ignored. Doctors have frequently expressed scepticism until they have seen the slides, at which point they usually begin to show some interest. A few have even expressed a desire to refer their own patients to Russell Willier.

In brief, in the first set of experiments, the results were only moderately successful. Lacking a control group, it cannot be proven that the patients who improved might not have done so without any treatment at all. The second set of experiments involved fewer patients and fewer controls. But the intensive case study approach in a naturalistic setting provided evidence that is convincing, at least to some.

The purpose of relating the psoriasis experiments in some detail was not to demonstrate the superiority of the research design. There are many ways in which the design might have been improved. Rather, the purpose of this account was to raise some questions about the nature of efficacy studies of alternative therapies which will be returned to in the final chapter of the thesis.

Validity of Alternative Healing

Many of the issues that arise from this examination of efficacy studies will be summarized and highlighted here. One prevalent theme is the issue of individualization. All of the therapies discussed above examine the person on an individual basis and develop therapies specific to that person. This becomes an issue when trying to compile statistically significant results that need larger numbers upon which to generalize. It is much more difficult to account for all the variables when each patient receives a different treatment. However, as the above studies have shown, this can be at least partially compensated for as long as that element is realized and visible in the data.

This issue of individual treatment highlights the more important and often glossed over wholistic aspect of a treatment system. A difficulty in evaluating many alternative treatments is that they are part of a system that recognizes a variety of inseparable relationships. This is very different from biomedicine which takes a reductionist approach. By its very nature, biomedicine can only focus on singular aspects of treatment.

The subjective nature of many efficacy studies is an issue that occurs regardless of the therapy being evaluated. A common report in these studies is that there is still insufficient data; therefore more studies are necessary. What then, is considered an acceptable amount of data for a therapy to be considered efficacious? Many of these therapies have been the subject of numerous positive efficacy studies. The rebuttle is that there are also as many studies reporting that the alternative therapy in question did not prove any more efficacious than prevailing biomedical treatments.

The ideal of a standard clinical efficacy study may create a false sense of security. If a study is random, blind and controlled, we tend to believe the results will be reliable. But is that necessarily the case? Take blinding, for example. The patient, practitioner, and/or evaluator are blinded, thereby supposedly eliminating any biases. But many kinds of biases cannot be eliminated. The challenge is to recognize the biases that are involved and to compensate for them in interpreting the results, rather than being lulled into a false sense of security. To say that because a study is not blinded it is not valid due to its subjective nature, is to be somewhat naive about the research process.

To understand whether the efficacy studies that have been done were useful we must first ascertain their goals, such as providing validity for particular therapies and/or systems of medicine so they can gain acceptance into the mainstream or be adopted by patients. Health insurance coverage of certain therapies may be another goal; safety is often cited as a concern by biomedicine, patients and practitioners. Access may be the most important goal that efficacy studies can pursue. Although many of these forms of

health care are available throughout North America today, as they come under closer scrutiny, and controls are imposed, many may be eliminated as others gain acceptance. Efficacy studies will ultimately enable people to access greater health care, as more therapies are included. This is why it is important to begin to negotiate for structures to provide validation that can be accepted by all parties.

The more mainstream forms, such as chiropractic and acupuncture, have had greater acceptance, but it is difficult to decide why. They are both systems that have accredited schools. Chiropractic has one school in Toronto with a four year program and extensive entrance requirements. Chiropractic is also recognized by Alberta Health Care as a legitimate therapy with the result that it is, in part, covered by insurance. Both have strong associations that monitor themselves and have strong lobbying power (personal communication, local practitioners).

Efficacy studies are intended to improve health care by encouraging safety and maximum effectiveness. However, that is not the only reason they have remained so structurally cemented in their conservatism. It often seems that studies of new treatments and the expectations from those studies are especially rigid, to keep the "quacks" out. The newest pharmaceutical treatments are often presented in the popular media as having profound effects on patients, who tell stories of how great the medication is. Patient satisfaction is often quoted, as has been mentioned previously. Yet that kind of testimony is not considered sufficient for alternative therapies.

Britain, which seems to be farther along in legislation and institutional acceptance of alternative types of healing, is currently dealing with the problem of

research and efficacy studies. One report argues that for "complimentary medicine it is impossible to devise a research protocol using orthodox rules for research practice where each patient is treated as an individual and therefore requires a different treatment pattern" (Osborne 1994:584).

Policy and Regulations

The escalation in alternative medicine is creating a fragmentation of health services. While some biomedical practitioners are using alternative forms, others are supporting policy to exclude this. Alternative healers, trained and untrained, are appearing on every trendy street corner; patients are experimenting; policy is shifting chaotically according to use. In the United States, as a reaction to the use of alternative medicine by biomedical practitioners, and to alternative practitioners, policy is shifting. Golan states "[s]everal states have already taken disciplinary action (practice restrictions, license suspensions license revocations, and jailings) against physicians simply for prescribing such "unapproved" remedies as vitamins, minerals, enzymes, herbs, and homeopathics, or for using standard medicines or techniques in innovative ways" (Golan 1994:491). In other states legislation has been passed that "protects a physician's freedom to practice alternative medicine" (ibid:491). This is evidence of the chaos that is stemming from patient demand.

These restrictions provide a flashback to the Popular Health Movement and the development of the American Medical Association of the 1800s in the United States. The increasingly restrictive nature of such legislation may be viewed as a backward

move for medicine in general. It can be seen as limiting any collaboration and once again creating a competitive relationship between practitioners as well as creating specializations whereby health care becomes more difficult to access. On the other hand, patients may benefit. If the biomedical doctors are seen only as diagnosis specialists and drug dispensers, people will be inclined, and encouraged indirectly by the system, to seek treatment from alternative therapists.

The policy for alternative therapies and practitioners in Western Europe is one of general tolerance (France, Belgium, Italy, Finland, Scandinavia and the UK), with some countries creating room for alternatives directly through legislation (Netherlands and Germany) (BMA 1993:18-26). The Netherlands is an interesting case and can be seen as parallel to some recent changes in Alberta's policy. While alternative medicine in the Netherlands is "technically illegal", it is "tolerated" (ibid:18). This is the same in Alberta where the College of Physicians and Surgeons of Alberta have stated that unless there is a complaint of harm done to a client, where they would then refer the case to the Attorney General's office (personal communication), alternative healers are allowed to work as long as they are not claiming to "cure" anything.

However, the most important parallel is in regard to the evaluation measures of alternative practices. The Netherlands is encouraging collaboration, has developed funding to "stimulate studies into the efficacy of non-conventional therapies" and is working towards "the formulation of an acceptable methodology for research into non-conventional therapies" (BMA 1993:21-22). In Alberta, this same "tolerance" of biomedical practitioners using alternative therapies has resulted in the College of

Physicians and Surgeons passing a Resolution with two new guidelines for physicians: first, medical practitioners who use "complementary" medicine must report on what they are using, how and when they were trained, why they are using it and when they use these therapies; secondly, they must report on the effectiveness of said therapies. This is where the problems begin and mediation must be used. At present, the College has no mechanisms in place to judge the efficaciousness of these therapies (personal communication).

The result of this policy modification is not simply to focus attention on alternative medicine, but the opportunity for it to be investigated and looked at more thoughtfully by people in biomedicine. It also provides other researchers, such as anthropologists, an opportunity to assist in the evaluation that becomes necessary as greater access becomes available. As policy shifts, people take sides; and as biomedicine sees how many of "their own" are using these forms, more thought is put into understanding, or at least making room, for these other forms of health care.

CHAPTER FOUR:
CONCLUSION - EFFICACY STUDIES AND MEDICAL ANTHROPOLOGY

One of the largest stumbling blocks for medical pluralism is how the intersection of Western biomedicine and alternative healing is to be understood and organized. There is an understanding developing that collaboration of some type is necessary, but how this will be possible is still a very complex issue. If people are going to accept medical pluralism and collaboration between alternative forms of healing, everyone involved needs to be reassured that it is effective and quality health care that is being offered. Yet, many questions remain about terms such as "effective" and "adequate"; by whose standards are these terms defined?

The Western science model is the one that is used to impose the structures that are demanded for efficacy. Therefore some feel that whatever methods of evaluation are developed, they will necessarily have to be understood by Western scientific theories (Glasser 1988). Others, such as Jingfeng (1987:662), feel that the patient's perceptions, satisfaction and complaints should be "the major index of therapeutic efficacy." I will suggest in these conclusions, that a number of methods may be incorporated to effectively broaden the health care system safely and efficiently.

All types of medical systems are beginning to realize that there are benefits to some type of intersection between biomedicine and alternative therapies. The next step is to find a way in which systems with seemingly vastly different conceptual starting points can work together. Traditional Chinese Medicine has a strong history of 4000

years and India's Ayurvedic system has been ongoing for 3000 years (Neumann 1982:1820-21). The fact that these systems have been in existence for so long should encourage the West to investigate their approaches. Although they may seem to have very different ideas about disease and curing, it is necessary to consider them if "adequate" health care is to be achieved.

An essential part of the problem is that Western scientific medicine understands health and illness in different ways than many alternatives. Until a common working platform is established, the development of medical pluralism will be limited.

Where Can We Go From Here?

Should anthropology be involved in the efficacy study business? Historically, the answer has been no. When anthropologists ventured out to study other people, for whatever reasons, they were there to gather information, and then translate that information into relevant formats to further our understandings of cultures, including our own. The idea of efficacy was irrelevant because: 1- anthropologists were not concerned with the "authenticity" of the others' world views; 2-colonial attitudes were common. However, as populations shift more than ever before, cultural diversity is being encountered more and more on a daily level. As well, given the recent North American embracement of alternative medicine, it is necessary to demand some form of efficacy. It is fair to ask how and if a medical therapy works.

Of all the literature reviewed for this thesis, it appears that there have traditionally been two factions: those who do not advocate studies of alternative forms of medicine (some anthropologists and healers such as Anderson 1996, Waldram 1995

and Kleinman 1980); and those who are demanding proof of efficacy (biomedicine and policy makers). Many in the latter faction agree to the value of other forms of healing, but there are few suggestions as to what can be done to create an atmosphere of acceptance and it is frequently argued that efficacy studies should be done in a biomedically scientific arena or not at all.

The time has come to address the efficacy issue head-on. This conclusion is based on a few basic observations: people are using alternative forms of medicine in North America at an ever increasing rate (10 billion dollars spent in 1993; Eisenberg 1993:246); the studies that have been done are not accepted either because of who has done them or published them, or the methodology has been questioned; North American systems (economic, political as well as health) are being restructured; the biomedical establishment has begun to accept some other forms of healing; and finally, simply because the gap can be bridged.

It is possible to create a model for the study of other forms of healing and treatment besides a biomedical one. However it will take certain adjustments of attitudes in all areas. All parties, biomedicine included, need to realize that biomedicine is culturally relative as is any form of healing.

When translating from one language to another, the result is often not an entirely adequate translation; the meanings may be skewed. But without that translation the ideas may not be shared. And this would be a tragedy in many instances.

The same can be said of studying alternative forms of medicine. We can view efficacy studies as a form of translation. Understanding an alternative system in terms of its own structure and set of beliefs is the first step in the translation process.

The Role of the Medical Anthropologist

> Medical Anthropology is a sub-field of general anthropology dedicated to research, teaching, and practice relating to health and all of the ways in which health is maintained, experienced, promoted, and threatened in societies everywhere, including our own now and in the past (Anderson 1996:17).

The role of cultural brokers is becoming more and more important because biomedicine, in its dominant position in the medical hierarchy, has been less than fully effective cross-culturally. Also as North American society continues to expand more in the direction of multiculturalism, problems arise. For example, immigrants bring with them their own health care models and systems of understanding health. Yet our system is set up so that people must access and receive support from, primarily one system. Finally, many North Americans who would not assign themselves to an "ethnic" group are becoming more and more dissatisfied with biomedicine and are seeking alternatives. As people reach out and use alternative forms, they put pressure on the existing system and create fissures in the way the system is perceived to work.

Efficacy studies can be done for alternative forms, just as we in anthropology have applied our theories to other people and cultures for many years. The most important requirement though, will be to recognize that the current structures for efficacy studies, based in biomedicine and Western scientific paradigms, will need to

be modified. Kuhn suggests that scientific paradigm shifts occur; he also implies or uses an evolutionary type of model. Thus, the social sciences and their theories are viewed as "immature" (Kuhn cited in Anderson 1996:30). However, Rappaport would suggest that it is possible to re-evaluate past methodologies and theories, and re-work the ideas for contemporary issues, a theoretical reformulation (Anderson 1996:26).

The idea that anthropologists should not be involved in efficacy studies is discussed in Anderson (1996). Two facts are relevant to this argument: first, there really has not been a call to do efficacy studies for any reason previously; secondly, within the anthropological literature, efficacy is frequently hinted at, but never fully explored. Except for a few anthropologists such as D.Young and D.Wirth, very little has been developed in the way of doing efficacy studies by anthropologists. Yet the atmosphere is right in North America for anthropologists to work together with other disciplines to assist in redefining some understandings of health. In 1968 Marvin Harris suggested that "[m]any anthropologists find it sufficient to apply themselves to limited problems cast in an ostensibly scientific idiom but deliberately detached from questions of causality and origins. Various stratagems have been introduced that avoid statements of causality, while conveying the impression that an explanation is being offered" (Harris 1968:2).

This is where the role of anthropologists can be so important as cultural brokers. Being trained in trying to understand world views from an emic and an etic point of view is going to provide a bridge between medical understandings and help us work towards a genuine and beneficial pluralism.

Emic/Etic

In anthropology it is difficult to discuss any interpretation of an issue or phenomenon without referring to an emic-etic understanding. Elaboration on the basic definitions of "emic" and "etic" will not be extensive except to state that it is exactly at the meeting place of these two approaches that efficacy studies of alternative medicine need to be viewed and clarified. It is not an either/or situation, but rather one that can smoothly flow between the two. It is the anthropologist's role to understand the emic meanings assigned to a system of health care and try to mediate this to another understanding.

The value of emic understanding lies in the fact that those within the system are better able to understand that system and all the implications, good and bad, right and wrong, effective or not, than someone without that basic knowledge. Etic understandings also are important. An etic operation occurs when "independent observers using similar operations agree that a given event has occurred" (Harris 1968:575). What Harris suggests is to attempt to study emic understandings etically. For efficacy studies, this would suggest that "[t]here is no reason...why emic statements cannot be operationalized to the point of achieving high standards of intersubjectivity, verifiability, and predictability" (Harris 1968:576). This ability to look within the system, but yet understand from outside the system is a skill that anthropology has to offer.

Anthropologists as cultural brokers can aid in the collaboration of ideas and development of new areas. One of the most dire problems is the fragmentation of

knowledge systems that Western views would have people make. The idea of using only their drugs and their cultural knowledge of plants is a severe misrepresentation of what alternative medicines, as systems, have to offer. Systems must be understood as wholes. A wholistic approach is in itself not representative of Western science which tends to be reductionist and fragmentary. Yet, a bridge must be forged somewhere. Whether or not alternative therapists are willing to put their practice under a microscope is one issue; whether this can even be done, is another. How can one world view express its ideas in another? Western colonialists and researchers have been attempting to do this for centuries. It may be up to anthropologists to create a forum where the subjective realities of a world view can be studied from other perspectives. This must be done for all world views, including Western science.

Shifts in Thought

Although biomedicine's approach has been conservative towards medical alternatives, shifts are beginning to take place. Many are beginning to see not only the limits but the potential harm in the way people are being treated by biomedicine. Dr. Ron Anderson, interviewed by Moyer (1993:2), states: "We cannot just prescribe medication and walk away. That is medical neglect. We have to take the time to get to know her, how she lives, her values, what her social supports are. If we don't know that her son is her sole support and that he's out of work, we will be much less effective in dealing with her asthma." This example shows a doctor speaking in a way that people are unaccustomed to in a biomedical setting. In his discussion of this woman's stress and her illness, he exposes ideas that are usually not accounted for in

Western medicine. It is often felt that obtaining this type of knowledge is too time and money consuming and, is perhaps the responsibility of social workers or councillors and not medical doctors.

Efficacy trials attempt to expose ways of understanding. It is unlikely that biomedicine would prevent a therapy that would be beneficial to people. However, it does want to protect people, which is not a bad thing to do. It becomes detrimental when biomedical personnel are blinded by their own way of seeing. It is one thing to see the world through one's own cultural grid, which everyone does; it is another thing to believe that that is the only way to understand, and to disregard other ways.

Whether it was the Hippocratic's extensive diagnosis and prognosis (Lloyd 1983), house calls, or an indigenous healer's knowledge of his/her community, it seems that "knowing" the situation of a patient may enable a healer to make a more accurate diagnosis and treatment plan. Yet, there are many patients and few resources. So where does this effective and necessary medicine and healing take place? And more specifically for biomedicine, what has happened to Western medicine that has altered it so much that the practice has become isolated and reductionist? Granted, a biological understanding of the body has taken health to new levels, and has extended life. But has it enhanced life?

It has been difficult to decide what is worthy of research and what there is no hope of ever proving. As Buckman and Sabbagh (1993:167) point out, some fields, such as astronomy, physics and chemistry, have "earned the title of science." And others, being based primarily on anecdotes, have not received that same recognition or

legitimation in the eyes of the dominant medical system. It is worthy to point out that all newly established ways of thinking begin from an idea, a story if you will, with little or no proof. It takes a great deal of time and effort to establish ideas that have often been considered fringe from the beginning (many ancient thinkers were exiled or lost their lives for their progressive thinking). Since it has always been a difficult process to establish new ways of thinking, it will be worthwhile to examine the history of efficacy studies for ideas, those established and those not yet established.

Robert Anderson, in his recent book, *Magic, Science And Health*, places medical anthropology in a very specific role and presents its interpretations as having an equally specific (and limited) understanding:

> ...since anthropology, whether as a science or human scholarship, is committed to entirely naturalistic explanation, and what is considered natural must meet criteria that exclude beings and forces said to be exempt from the physical rules of nature....It is just that as scholars and scientists we do not know how to deal with the non-ordinary, so we are forced to leave it to those who do (Anderson 1996:356).

This view reflects one that is grounded in a culturally-biased and scientific reality of North American society. I feel very strongly that such a statement does nothing to allow scholars to add to their pool of knowledge. If all we can know is that which we already understand and have theories about, how would we grow? I do not feel that anthropology is committed to any particular *type* of explanation and certainly, if we were, it would not be to one that cannot take account of the widespread belief in "forces and beings" not within the realm of nature. Garden (1988:23) points out that

naturalism itself is a culturally bound perception. In anthropology we need to allow people in other cultures to speak for themselves.

Anderson goes on to describe several incidents where anthropologists have become involved in experiencing the realities of their informants' culture (Anderson 1996:356-357). He does not simply suggest that these are experiences that are irrelevant for the field, or that they should not be published in scholarly writing; he denies that these experiences happened as the researchers recorded them. Anderson suggests shamanic healing can be explained by "sleight of hand" (Anderson 1996:357). In one case, referred to by Anderson, the healer and the participants, including the ethnographer (Edith Turner), observed the emergence of a grey blob from the body of a person being healed. If Anderson is right, this experience, because it does not have a naturalistic explanation, did not happen for either the ethnographer or the Native healer.

Those who perceive anthropologists as "gullible" (Anderson 1996, Glasser 1980) are imposing a colonial bias, an attitude of condescension towards those we study. We study other people's systems, trying to understand their relationships and their meanings. What is the point if all we can do is resort to a statement such as "That's the way it works for them, but in a non-real worldview." If we are saying that what we learn is one way to explain something, a real way, logical, different from ours, but just as real within a set of cultural boundaries, then we are treating that data and those people as equal. This is essential in anthropology. We have developed from a discipline that once went into the field with a colonial attitude. It is difficult to judge

the past today since we have evolved away from the attitudes that prevailed then. However, the hierarchical relationships and perceptions of right and wrong and the way things "really" work, persist. Anthropology has been a leader in research to test the boundaries of the ethnocentricity that has dominated Western thinking. Yet we still exist within this ethnocentrism and many still fall into its traps.

Communities: Sub-cultures

The idea that different medical traditions should be treated as separate communities is one that has been put forward most compellingly and comprehensively by Arthur Kleinman. He stresses the value of understanding models of medicine as "cultural systems"; recognizing them, understanding their various functions and then using this cross-cultural information in a way that allows for translation between anthropology and the "health sciences," or biomedicine (Kleinman 1978). Many scholars have since recognized the importance of this view. Gevitz (1995:128) suggests that "orthodox" medicine "can be regarded as being part of a professional community in that they speak the same language, rely on the same general pool of knowledge, share certain beliefs, subscribe to similar views and strive for common goals." Equally, "western medicine [is] increasingly being understood as one of many medicines - 'biomedicine' - culturally and historically specific and far from universal" (Garden 1988:20). However, Gevitz chose to present alternative medicine as not having this "community" because although it is classified together as a whole, it is a collection of very diverse theories and practices. He further points out that the only thing alternative therapies appear to have in common is the fact that they are not part of

the mainstream of medicine; they become a community in response to biomedicine's accusations. Yet as we begin to understand the systems and theories behind each different tradition, we can begin to ask questions about the workings of those systems.

Evaluation of a system needs to be relevant to that particular system. Anthropology is a discipline that understands the cultural variations of the "mechanisms" within these different systems (Kleinman 1978:87). The treatment of "alternative medicines" as some complex whole is not unlike the problems that North Americans, notably Canadians, have experienced in treating the First nations peoples as some "homogeneous" group. Policy makers and researchers expect these groups to be evaluated, treated and mandated as a whole, when there are as many differences as there are groups. This creates multiple complications for creating standards for evaluating alternative medicines.

Salmon states that there is developing "a new epistemology of medicine" and that medicine is going to be reoriented to incorporate these other systems (Salmon 1984:252,254). Using both rational and intuitive means of investigation will allow health care systems to expand, and perhaps other understandings might expand as well. Yet it is important to see the collaboration that is possible and happening, and know that although there are many different types of alternatives that may be investigated and many different understandings of health, they may be "different, but not necessarily incompatible to conventional methods" (Caplan 1984:93). It is important to understand that a "failure" to prove efficacy of a system or treatment by Western scientific

methods does not invalidate that system. Rather, other means of investigation must be incorporated.

Kleinman makes many suggestions that although, generally accepted today, still have not been implemented to their fullest. Biomedicine has begun, in the last five years, to work collaboratively with other disciplines in a way that the benefits can be felt by ordinary people. Kleinman (1978:88) made suggestions to "rethink" not only anthropology but also medicine. This has been happening (the Office of Alternative Medicine in the NIH for example; see Moyer 1993) and is accelerating, as suggested by media reports as well as the continuous changes to policy in North America. Yet, what has not been done effectively is the "use of medical anthropological ideas to help them construct a new paradigm for clinical practice" (Kleinman 1978:89) and a bridge between health sciences and anthropology (McElroy and Townsend 1989).

By understanding the ability for mediation that anthropology offers and by understanding the philosophical and basic differences between the forms of medicine that exist, we arrive at this question: how can we structure efficacy studies so that they will be acceptable by scientific standards, yet not be damaging to the systems studied.

General Suggestions

To make this thesis more useful, it needs to provide suggestions as to how efficacy studies can be done, given the problems with the current structures. I will outline Basic Principles that need to be accepted if we are to begin to evaluate other health traditions. The next section discusses Models of Efficacy that are currently in practice in biomedicine as well other disciplines. The third section is conclusions.

I. Basic Principles

Ideally, all parties, including practitioners, patients and policy makers would agree to the following principles. However, in practice, this will take greater negotiation.

1. There must an agreed upon definition of health that is more broad than currently used in biomedicine. While biomedicine understands that health models have to address a whole picture of the patient, its structures have not yet broadened to encompass this. Health must be defined to include the states of physical, mental, social and spiritual health. A possible definition would be: health is a balance of mental, spiritual, social and physical elements in a person's life.

2. There must be an agreed upon definition of efficacy. This must include a statement of purpose, as well as expected results and statement of types of evidence.

3. Evidence should be understood to be all the data that can be collected concerning a certain healing strategy and its outcomes. This includes data that are collected by means other than a traditional biomedical clinical study using blinds and controls.

In deciding on the principle of "evidence" it is essential to identify what is acceptable as evidence and what is not. Patient reports, anecdotal stories by physicians, family members and others are evidence of a treatment affecting health. Current biomedical standards should also be used when applicable. Applicability depends on the practitioner, the type of system and whether, it is appropriate to evaluate the system in a biomedical setting.

4. "All possible means" needs to be established as a standard in efficacy studies. This should be understood as any methods that further the understanding of the effectiveness of a health treatment. Control is a useful measure that should be incorporated whenever possible. However, recognizing that some practitioners will not find it ethical to leave a group of people "untreated," this may not always be possible.

It is useful to understand the variables that may be used in an efficacy study as lying on a continuum. On one end, there would be all possible controls. This would be an efficacy study that is highly reductionist and attempting to account for one element of a treatment, as in biomedicine. The attempt of controls is to eliminate "irrelevant" variables. The other end would be efficacy studies that use all possible means of accounting for efficacy. This would essentially be a case study that observes and records all elements of a treatment as they relate to that person's "whole" health, as defined in Principle #1. An actual study would probably occur somewhere in the middle of the continuum.

II. Models of Efficacy Studies

In this thesis, I have discussed current approaches to understanding health and the need to accommodate and facilitate the changes that are taking place. In a review of efficacy studies done on alternative therapies, a bias towards clinical studies, has been identified. It has been noted that this singular approach has many problems, the most broad and often invisible one being that biomedicine itself is culturally structured. What I intend to do in this section is identify the key features of the different types of

studies and examine how a blend of these structures can be used for a more effective and acceptable form of efficacy.

The following is a description of efficacy studies as they are understood in three areas: the case study approach, clinical approach and epidemiological approach. I discuss each approach under four sub-headings: data collection, nature of controls, criteria of efficacy and causal factors. The information is summarized in Table 1.

Data Collection

The collection of data has been identified as an area of contention in clinical studies. In any study, all methods that are used to evaluate a treatment need to be identified and explained.

The case study approach specializes in the documentation of an ethnographic event through intensive, multi-varied methods. An anthropological case study traditionally occurs with limited disruption to the informant's (the patient's) "normal" life. Participant observation and the interview process are the primary methods of data collection. These methods allow for data collection in many areas of the patient's life that reveal relevant factors pertaining to his/her health. Photography and other recordings can also be used.

The clinical approach collects data through experimental intervention. As discussed previously, this approach observes phenomena as they relate to an isolated

experiment, set up to be observed by the researchers. The attempt in this isolation is to observe the specific effect of a particular interventionist technique.

The epidemiological approach uses a comparison of statistical data in an attempt to find correlations that suggest causality.

Nature of Controls

Control in a case study consists of examinations of the patient before, during and after the treatment. This would be comprehensive data collection of the nature described above. The purpose is to document any changes that occur. The case study would be observing, with its wider scope, changes that occur in all areas of a person's life where changes in health can be detected. As well, long term follow up would confirm the extent of the changes and examine results after the researcher has left the "research area."

The clinical approach is, by its very nature, bound by controls. The scientific approach in this case is to attempt to control every variable or eliminate it, if it can not be controlled. Therefore, the classic controls are blindness (single to triple), random assignation of patients, and control groups in opposition to the experimental group.

The only element of control in epidemiological studies relates to statistical manipulation. For example, one could see if there is a correlation between stress and cancer, controlling for age and sex. In this case correlations between measures of stress and cancer would be done for females in a certain age group. The same procedure would apply to males.

Criteria of Efficacy

Efficacy is judged in many ways in a case study. Patient satisfaction is important in the evaluation, but not exclusively. More effective functioning in psychological and social realms is equally important. There should be some observable improvement in physiological terms and this can be established through laboratory testing. This may not seem very precise to some, but the advantage of the case study approach is that it is the most likely to include the important variables, even if the precise effect of each variable cannot be determined.

In a clinical approach, efficacy is dependent on changes in the experimental group occurring at a different rate than in the control group. The assumption is that, all things being equal, the isolated element being tested can be evaluated. However good this is for singular pharmaceutical components or biomedical procedures, it is not effective for wholistic systems, or even the biomedical system whose patients have individual differences which affect their health. No one person responds to the same medication in precisely the same way.

Epidemiological studies have to establish correlational evidence that certain conditions are more conducive to health than others. The efficacy lies in the idea that a certain response to a health condition is efficacious due to the statistically significant factors. For example, North Americans who reduce their smoking habits are seen to also reduce their risk of heart disease. Therefore, it would be efficacious to reduce, or stop a smoking habit.

Causal Factors

Causality is the pivotal point in the problems of efficacy. Biomedicine demands an accurate explanation of causality, which is arguably, always in question.

In a case study it is quite difficult to isolate single factors that create improvements in health. Due to the variety of variables observed, the goal is to establish a more wholistic understanding of the healing process.

A clinical approach attempts to isolate single factors and evaluate these exclusively. However, its attempt to eliminate the effect of "irrelevant" variables is almost impossible, as in the case of the placebo effect. Although controls attempt to eliminate it, the placebo effect is associated with any kind of treatment, including the administration of drugs with active ingredients.

Causality cannot be proven in an epidemiological approach, as correlations can be due to the effect of intervening variables. Causality can be merely suggested.

Conclusion

There is no reason why these methods cannot be used in combination. The case study and epidemiological approaches collect a breadth of information and should be done first. Epidemiological studies can be used for identifying the large relationships that might be occurring. For example, statistics could reveal that a community that has been using a homeopathic doctor has had a reduced number of emergency visits to the hospital. This may be identifying a relationship that needs further investigation. A case study would reveal who is using a particular healer and what effect it has had on

an individual's life. A clinical study, when appropriate, can help pinpoint specific causes. However, if the clinical approach is used first, and can find no evidence to support a causal relationship, often the treatment is dismissed. Yet, closer investigation, using a case study approach, may reveal much more than a reductionist view could.

Table 1. Models of Efficacy Studies

Methods and Evaluation	Case Study Approach	Clinical Approach	Epidemiological Approach
I. Data Collection	- documentation of an ethnographic event * participant observation * interviews * photography	- experimental intervention	- comparison of statistical data in an attempt to find correlations that suggest etiology
II. Nature of Controls	- before, during and after examination of the treatment - long-term follow-up	- control groups - blinding	- statistical manipulation
III. Criteria of Efficacy	- patient satisfaction - more effective functioning in psychological and social realms - some observable improvement in physiological terms - lab tests	- experimental group shows more change that the control group	- correlational (indirect) evidence that certain conditions are more conducive to health than others
IV. Causal Factors	- may be unable to isolate a single factor or say what % of improvement is due to herbs; what % is due to ritual, etc... - goal is not reductionist, but wholistic	- the intent is to isolate a single causative factor. But it cannot really rule out other factors such as placebo effect. For example, one may be able to say that intervention was more than placebo, but placebo effect may be operational in both the control group and the experimental group.	- with a correlational approach, causality cannot be proven. There can be numerous intervening variables. Evidence is only suggestive of causality.

III. The Contribution of Medical Anthropology

Some of the obstacles that are faced with clinical studies may be addressed by adding some anthropological methodology. What medical anthropology can bring to these developments is an emphasis on ethnographic approaches as well as clinical and epidemiological understandings of health problems (McElroy & Townsend 1989:xix). We need to accept biomedicine and its methods, and work with those cultural constructs when possible. This is necessary as we are working within the North American domain, one which is dominated by Western scientific methods. However, we cannot limit ourselves to those methods. Indeed, after the discussions of sub-cultures and cultural relativity in this thesis, it is necessary to look elsewhere for methods of evaluation that are relevant to a sub-culture as well as being effective for evaluation.

The ethnographic methods of medical anthropology, provide an alternative. Although participant observation has been popularized as the predominant method in anthropology, ethnographic methods can include a variety of data collection techniques such as interviews, surveys, literature analysis and archival research as well as participant observation (Reinharz 1992:165, Trotter 1991:180). The "case study" approach is an effective way to examine a complexity of variables and to analyse their relations in a real-life situation. In her discussion of feminist methodology, Reinharz (1992:167) describes the case study as a series of tools that allow the researcher to "illustrate an idea, to explain the process of development over time, to show the limits

of generalizations, to explore uncharted issues by starting with a limited case and to pose provocative questions."

In an alternative medical situation, an anthropologist is able to begin to put aside culturally constructed barriers that would demand evaluation through biomedical means. They would begin with an understanding that is respectful and cognizant of the "others'" world view. By using the methods described above, the data that would be collected would begin to put the efficacy of a healing tradition into context.

An anthropologist could add to the "evidence" collected on a healing tradition by doing extensive data collection before, during and after treatment, as discussed above. As has been pointed out to me, biomedical doctors too, can provide a detailed case history of a patient. Although true, the data that an anthropologist would collect would be far more extensive for a variety of reasons. Being trained as observers, we would be observing patients in a variety of settings, primarily the patient's normal domains, where the traditional power differential is absent. Very few biomedical doctors have the time or the training to do such research.

The "before" of such research would include a case history of the patient as well as complete documentation on the practitioner. There would have to be a literature review, as well as any biomedical measurements that could be valid such as, photographs, mobility measurements, daily activity and energy level reports from the patient.

During the treatment, it would be important to continue interviews with both the patients and the healers on whether the treatment was making any difference. It would

also be important to observe social factors within the household complex as well as the community, as the quality of relationships with community and family can be an indicator of an individual's health. For example, in a First Nation's community, if there were more purchases made of meat at the grocers, it could be concluded that the hunter who normally distributes wild meat is ill (Harris and Sedownik, personal communication). This is something that could never be measured in a traditional study.

After the treatment, similar types of interviews could be done, but should also include family and community member evaluations. Again, measurements relevant to the treatment could also be performed.

The abilities of a medical anthropologist that enable that person to use anthropological methods in studying a health care system are well established in applied medical anthropology (Hill 1991). By using these methods, researchers are able to observe the "ordinary" events in a person's life and thereby identify beliefs and behaviours that are relevant to the hypothesis at hand (Trotter 1991:181).

These types of methods could be used in efficacy studies as well as in developing better ways to deliver health messages, remove barriers, alter the ways people use medical services, and improve the ability of health professionals who work in a cross-cultural setting (Trotter 1991:180).

Conclusions

A sense of urgency has prompted a push in efficacy studies. As interest in alternative forms of medicine grows, the move towards standardization also does. As the public increasingly uses alternative forms, they are beginning to demand the right to have them covered by universal health care. In Britain, the British Medical Association is moving towards "developing and evaluating procedures for demonstrating the efficacy of individual non-conventional procedures..." (BMA 1993:17). Alberta is also moving towards this area, as is the United States in general through the office of Alternative Medicine at the National Institute of Health. In Alberta, the College currently[6] is working towards setting some guidelines for measurement of the therapies that physicians may use but in which they are not formally trained in medical school.

As Neumann (1982) points out, the ideal situation is one that would incorporate alternative forms of healing, including both traditional, and biomedical traditions. Yet this will not happen until we begin to understand where different forms can meet, where the fears and limits can be pacified and the benefits realized.

There is still the attitude within biomedicine, as with much Western science, that we will some day know everything (see Stephen Hawking's Grand Universal Theory, 1988). Even those who recognize unknown intricacies of mind/body

---

[6]The primary research for this project was completed at the end of 1995. The policies have not officially changed since then, although they are in a state of flux. The College recently tried to impose a policy that would prevent physicians from prescribing any alternative therapy until a 72 hour period had passed, so that the patient could have time to refuse the treatment.

interactions are looking for absolute answers. Olness (Moyer 1993:76) believes that by discovering "new tools for measuring intricate happenings within the brain, we will come to understand how changes in thinking or changes in images translate to changes in body function." Continuing to search for understanding is a very important part of growth.

The central question is whether a "new world view" is emerging (Moyer 1993:104). Dean Ornish, a medical doctor, believes that it is, and that the new world view will use both the wholistic and "the so-called scientific model. But none of these models really gives a complete picture" (Moyer 1993:104). Since there are benefits and limits to both, it is time for biomedicine to release its dominating grip on medical systems and allow other forms to rightfully emerge so that an association of legitimate healers can begin to provide people with "adequate health care."

As biomedical doctors are experiencing and attempting to understand alternative forms of healing, things are changing. There is still a great deal to do and many conservative barriers to break through to achieve a level of health care that is "adequate" for everyone and that has an understanding of health that is more wholistic than currently understood in biomedicine. Dr Jon Kabat-Zinn concludes:

> Well, times are changing. If we hope to understand what it means to be a human being, we have to take seriously the efforts that people have made for thousands of years to look onward.
>
> Now the planet has gotten incredibly small. There is no East, and there is no West, and the human race needs all the wisdom it can get. We need to take what's most valuable from all the various consciousness traditions, integrate them into Western behavioral science and mainstream medicine,

> and study them as best we can in terms of the most sophisticated and stringent scientific methodologies. We need to ask: what is it about these ancient traditions that tells us something valuable about healing and the mind? (Moyer 1993:143).

This quotation raises two important issues: 1- the need for biomedicine to be willing to accept and try to learn from other traditions; 2- the need for the integration of different traditions. The first need is laudatory, but the second is not. Perhaps biomedicine can learn new ways to think about health and illness, but it also needs to realize that these systems are best understood within their own cultures. What is needed is a translation so that biomedicine can learn, but not co-opt the ideas and misuse them out of context. This does not mean that biomedical people can not include certain elements of alternative health procedures into their own regimes, but it must be noted that efficacy involves providing a relevant cultural context.

It is essential to emphasize the importance not only of efficacy, and collaboration, but also of critical thinking, question asking, and having an open mind to new ways of thinking. Bill Moyer's idea of exploration is not only the key to health, but to a better understanding of the human place in the larger system in which we exist. If we are to develop and change, we have to question all the barriers to new knowledge. This includes the wonderful "discoveries" that have gotten societies where they are today. Only through questioning where we are, will we be able to discover new pathways to new places.

REFERENCES

Aakster, C.W.
1986 Concepts in Alternative Medicine. *Soc.Sci.Med.* 22(2):265-273.

Abelson, Mark B., Michelle A. George, Christopher Garofalo & Dana Weintraub
1996 An effective treatment for allergy sufferers. *Biological Therapy: Journal of Natural Medicine* XIV(1):161-164.

Ademuwagun, Zacchaeus A.
1979a Problem and prospect of legitimizing and integrating aspects of traditional health care systems and methods with modern medical therapy: The Igbo - Ora experience. In Z.A. Ademuwagun, John A. Ayoade, Ira E.Harrison & Dennis M. Warren (eds), *African Therapeutic Systems*, pp.158-164. Waltham, Mass.: Cross Roads Press.

1979b Challenge of the co-existence of orthodox and traditional medicine in Nigeria. In Z.A. Ademuwagun, John A. Ayoade, Ira E.Harrison & Dennis M. Warren (eds), *African Therapeutic Systems*, pp.165-170. Waltham, Mass.: Cross Roads Press.

Akerele, O. The best of both worlds: bringing traditional medicine up to date. *Soc.Sci.Med.* 24:177-181.

Anderson, Robert
1996 *Magic, Science and Health: The Aims and Achievements of Medical Anthropology*. New York: Harcourt Brace College Publishers.

Audet, Brigitte
1994 Traditional medicine finds a place in tech-oriented Japan. *CMAJ* 150(9):1473-74.

British Medical Association (BMA)
1993 *Complimentary Medicine: New Approaches to Good Practice* Oxford: Oxford University Press.

Buckman, Robert and Karl Sabbagh
1993 *Magic or Medicine: An Investigation of Healers and Healing*. Toronto: Key Porter Books Limited.

Byrd, R.C.
1988 Positive therapeutic effects of intercessory prayer in a coronary care unit population. *Southern Medical Journal* 81:826-829.

Caplan, Ronald Lee
1984 Chiropractic. In J. Warren Salmon (ed), *Alternative Medicines: Popular and policy perspectives*, pp.80-113. New York: Tavistock Publications.

Chopra, Deepak
1993 *Ageless Body Timeless Mind* New York: Harmony Books.

Concise Oxford Dictionary of Current English
1990 Eighth Edition edited by R.E. Allen. Oxford: Clarendon Press.

Coxhead, C.E., H.Inskip, T.W. Meade, W.R. North & J.D. Troup
1981 Multicentre trial of physiotherapy in the management of sciatic symptoms. *Lancet* 1:1065-1068.

Davis, Susan Schaeffer
1988 Convenience, cost and courtesy: factors influencing health care choices in rural Morocco. In Christine I. Zeichner (ed), *Modern and Traditional Health Care in Developing Societies: Conflict and Cooperation*, pp.59-74. New York: University Press of America.

Delblanco, Thomas L.
1994 Editorial: Bitter herbs: mainstream, magic, and menace. *Annals of Internal Medicine* 121(10):803-804.

Doran, D.M. & D.J. Newell
1975 Manipulation in the treatment of low back pain: a multicentre study. *British Medical Journal* 2:161-164.

Dossey, L.
1993 *Healing Words: The Power of Prayer and the Practice of Medicine*

Eisenberg, David M., Ronald C. Kessler, Cindy Foster, Frances E. Norlock, David R. Calkins & Thomas L. Delblanco
1993 Unconventional medicine in the United States: prevalence, costs, and patterns of use. *The New England Journal of Medicine* 328(4):246-252.

Evans, D.P., M.S. Burke, K.N. Lloyd, E.E. Roberts & G.M. Roberts
1978 Lumbar spinal manipulation on trial. Part 1: Clinical assessment. *Rheumatol Rehabil* 17:46-53.

Farrell, J.P. & L.T. Twomey
1982 Acute low back pain. Comparison of two conservative treatment approaches. *Medical Journal of Aust* 1:160-164.

Garden, Deborah R.
1988 Tenacious assumptions in Western medicine. In M. Lock & D.R. Garden (eds), *Biomedicine Examined*, pp.19-56. Boston: Kluwer Academic Publishers.

Gevitz, Norman
1995 Alternative medicine and the orthodox canon. *Mount Sinai Journal of Medicine* 62(2):127-131.

Gibson, R.G, S.L.M. Gibson et al
1980 Homeopathic therapy in rheumatoid arthritis: Evaluation of double-blind clinical therapeutic trial. *British Journal of Clinical Pharmacology* 9:453-459.

Glasser, Morton
1988 Accountability of anthropologists, indigenous healers and their governments: a plea for reasonable medicine. *Soc.Sci.Med.* 27(12):1461-1464.

Glasser, Morton and Gretel Pelto
1980 *The Medical Merry-Go-Round: A Plea for Reasonable Medicine* Pleasantville, New York: Redgrave Publishing Company.

Glover, J.R., J.G. Morris & T. Khosla
1974 Back pain: a randomized clinical trial of rotational manipulation of the trunk. *Br J Ind Med* 31:59-64.

Golan, Ralph
1994 *You and the Medical Profession*. New York: Ballantine Books.

Hahn, Robert A. & Arthur Kleinman
1983 Belief as pathogen, belief as medicine: "voodoo death" and the "placebo phenomenon" in Anthropological Perspective. *Anthropological Quarterly* 14(4):3,16-19.

Harris, Marvin
1968 *The Rise of Anthropological Theory: A History of Theories of Culture.* New York: Harper & Row Publishers.

Hawking, Stephen
1988 *A Brief History of Time.* Toronto: Bantam Books.

Hill, Carole E. (ed)
1991 *Training Manual in Applied Medical Anthropology.* Washington: American Anthropology Association.

Jacobs, J. et al
1994 Treatment of acute childhood diarrhea with homeopathic medicine: A randomized clinical trial in Nicaragua. *Pediatrics* 93:719-725.

Jingfeng, Cai
1987 Toward a comprehensive evaluation of alternative medicine. *Soc.Sci.Med.* 25(6):659-667.

Joyce, C.R.B.
1994 Placebo and complementary medicine. *The Lancet* 344:1279-1281 November 5.

Kleijnen, Jos, Paul Knipschild & Gerben ter Riet
1991 Clinical trials of homoeopathy. *British Medical Journal* 302:316-323.

Kleinman, A.
1978 Concepts and a model for the comparison of medical systems as cultural systems. *Soc.Sci.Med.* 12:85-93.

1980 *Patients and Healers in the Context of Culture.* University of California.

Kleinman, Arthur & Lilias H. Sung
1979 Why do indigenous practitioners successfully heal? *Social Science and Medicine* 13B(1):7-26.

Knipschild, Paul, Jos Kleijnen and Gerben ter Riet
1990 Belief in the efficacy of alternative medicine among general practitioners in the Netherlands. *Soc.Sci.Med.* 31(5):625-626.

Landy, David
1977 Role adaptation: traditional curers under the impact of Western medicine. In David Landy (ed), *Culture, Disease and Healing*, pp.468-481. New York: MacMillan Publishing Co., Inc.

Leslie, Charles
1980 Medical pluralism in world perspective. *Soc.Sci.Med.* 14B:191-195.

Liao, Sung J. and Thomas A. Liao
1991 Acupuncture treatment for herpes simplex infections. *Acupuncture and Electro-Therapeutics Research., Int.J.* 16:135-142.

Littge, Roger O.
1994 Letters to the editor: nonconventional therapies. *Arch Fam Med.* 3:487.

Lloyd, G.E.R.
1983 *Hippocratic Writings*. London: Penguin Books.

Manga, Pran, Dorg Angus, Costa Papadopoulos & William Swan
1993 *The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain.* Richmond Hills, Ontario: Kenilworth Publishing.

McElroy, Ann & Patricia K. Townsend
1989 *Medical Anthropology in Ecological Perspective*. San Fransisco: Westview Press.

Meade, T.W., S. Dyer, W. Browne, J. Townsend & A.O. Fran
1990 Low backpain of mechanical origin: randomised comparison of chiropractic and hospital outpatient treatment. *British Medical Journal* 300:1431-37.

Molsberger, A. & E. Hille
1994 The analgesic effect of acupuncture in chronic tennis elbow pain. *British Journal of Rheumatology* 33:1162-1165.

Morse, Janice M., David E. Young, Lise Swartz & Ruth McConnell
1989 A Cree Indian treatment for psoriasis: a longitudinal study. *Culture* VII(2):31-41.

Morton, Alan, Sam M. Fazio & David Miller
1993 Efficacy of laser-acupuncture in the prevention of exercise-induced asthma. *Annals of Allergy* 70:295-297.

Moyer, Bill
1993 *Healing and the Mind*. New York: Double Day.

Neumann, A.K.
1982 Ethnomedicine and biomedicine linking. *Soc.Sci.Med.* 16:1817-1824.

Nwuga, V.C.B.
1982 Relative therapeutic efficacy of vertebral manipulation and conventional treatment in back pain management. *American Journal of Physical Medicine* 61:273-278.

Osborne, Susan
1994 Guest editorial: The future of homoeopathy and other complementary therapies as part of the British National Health Service. *Journal of Advanced Nursing* 20:583-584.

Patel, C.H.
1973 Yoga and bio-feedback in the management of hypertension. *Lancet,* November 10: 1053-1055.

Patel, Chandra, M.G. Marmot, D.J. Terry, M. Carruthers, Barbara Hunt & Malini Patel
1985 Trial of relaxation in reducing coronary risk: four year follow up. *British Medical Journal* 290:1103-1106.

Patel, Mahesh S.
1987a Evaluation of holistic medicine. *Soc.Sci.Med.* 24(2):169-175.

1987b Problems in the evaluation of alternative medicine. *Soc.Sci.Med.* 25(6):669-678.

Pearce, Tola Olu
1982 Integration of Western orthodox and indigenous medicine. *Soc.Sci.Med.* 16:1611-1617.

Rappaport, Herbert and Margaret
1981 Integration of science and traditional healing: a proposed model. *American Psychiatrist* 36(7):774-781.

Rasmussen, G.G.
1979 Manipulation in the treatment of low back pain - a randomized clinical trial. *Manual Medicine* 1:8-10.

Reinharz, Shulamit
1992 *Feminist Methods in Social Research*. New York: Oxford University Press.

Robb, Nancy
1994 Some MDs displeased as MSNS board gives nod to complementary medicine section. *Can Med Assoc Journal* 150(9):1462-1465.

Rossi, Ernest Lawrence
1986 *The psychobiology of mind-body healing: new concepts of therapeutic hypnosis*. New York: W.W. Norton and Company, Inc.

Russell, Bertrand
1959 *The Impact of Science on Society*. London: George Allen & Unwin Ltd.

Salmon, J.Warren
1984 Defining health and reorganizing medicine. In J. Warren Salmon (ed), *Alternative Medicines: Popular and Policy Perspectives*, pp.252-288. New York: Tavistock Publications.

von Scheele, Christian and Lars Nordgren
1986 The mind-body problem in medicine. *The Lancet* February 1, pp.258-261.

Shekelle, Paul G., Alan H. Adams, Mark R. Chassin, Eric L. Hurwitz & Robert H. Brook
1992 Spinal manipulation for low-back pain. *Annals of Internal Medicine* 117(7):590-597.

Shipley, M et al
1983 Controlled trial of homeopathic treatment of osteoarthritis. *The Lancet* 1 (8316):97-98.

Siraisi, Nancy G.
1990 *Medieval and Early Renaissance Medicine: An introduction to knowledge and practice*. Chicago: University of Chicago Press.

Sims-Williams, H., M.I. Jayson, S.M.Young, H. Baddeley & E. Collins
1978 Controlled trial of mobilization and manipulation for low back pain: hospital patients. *British Medical Journal* 2:1318-1320.

Taylor, C. Barr, John W, Farquhar, Eliot Nelson & Stewart Agras
1977 Relaxation therapy and high blood pressure. *Arch Gen Psychiatry* 34:339-342.

Thomas, M, S.V. Eriksson & T. Lundeberg
1991 A comparative study of diazepam and acupuncture in patients with osteoarthritis pain: A placebo controlled study. *American Journal of Chinese Medicine* XIX(2):95-100.

Trotter, Robert T. II
1991 Ethnographic research methods of training manual in applied medical anthropology. In Carole E. Hill (ed), *Applied Medical Anthropology*, pp.180-212. Washington: American Anthropology Association.

Turner, P
1980 Editorial: Clinical trials of homoeopathic remedies. *British Journal of Clinical Pharmacology* 9:443-444.

Waldram, James B., D. Ann Herring & T. Kue Young
1995 *Aboriginal Health in Canada: Historical, Cultural and Epidemiological Perspectives*. Toronto: University of Toronto Press.

Wardwell, Walter I.
1994 Alternative Medicine in the United States. *Soc.Sci.Med.* 38(8):1061-1068.

Weil, Andrew
1988 *Health and Healing*. Boston: Houghton Mifflin Company.

Wirth, Daniel P.
1995 The significance of belief and expectancy within the spiritual healing encounter. *Soc.Sci.Med.* 41(2):249-260.

World Health Organization
1978 *Primary Health Care*. Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978. Geneva: World Health Organization.

Young, Allen
1983 The relevance of traditional medical cultures to modern primitive health care. *Soc.Sci.Med.* 17(10):1205-1211.

Young, David E.
1994 Models of health care pluralism, pp.62-70. In Anwar Islam and Rosina Wiltshire (eds), *Traditional Health Systems and Public Policy: Proceedings of an International Workshop.*

Young, David E., G. Ingram & Lise Swartz
1989 *Cry of the Eagle: Encounters with a Cree Healer.* Toronto: University of Toronto Press.